the Skeptical Inquirer

PROPHECY AND THE SELLING OF NOSTRADAMUS

PSI CLAIMS & THE CLASSROOM
RANDI ON MISSTATEMENTS
SKOTOGRAPHY SCAM

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the Skeptical Inquirer

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News and Comment

The Soviet-Argentine UFO Blitz—Solved

Some of the most dramatic and widely witnessed UFO sightings in recent years have come in a series of reports from the Soviet Union and Argentina. In 1980 and 1981 press accounts told of a blitz of high-flying UFOs seen by tens of thousands of people in these and neighboring countries.

The most sensational sighting was on June 14, 1980. Thousands of people in central Russia saw it. Reports said many were frightened, thinking it might be a nuclear attack. An hour later, residents of Chile, Argentina, Brazil, and Uruguay reported seeing a similar object. It was even photographed.

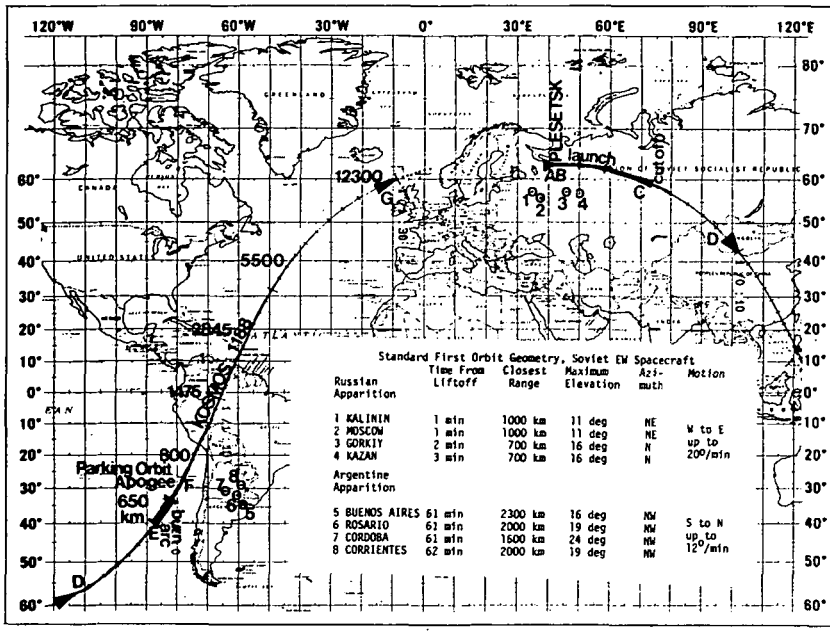
Hypothetical explanations abounded. Flying saucer enthusiasts were convinced they had seen an alien craft. "It was a truly terrifying sight," said one frequently quoted UFO "expert," himself an eyewitness. "I instantly realized that the reddish crescent simply had to be an extraterrestrial spacecraft."

Allan Hendry, of the Center for UFO Studies in Illinois, was far more cautious. Hendry said he believed there was a natural explanation. "The problem is that we haven't found out what it could have been!"

Now the prosaic solution to this UFO blitz has been uncovered by skeptical UFO investigators, members of the UFO Subcommittee of CSICOP. The lead investigator is James E. Oberg, a computer scientist at NASA's Johnson Space Center in Houston, whose specialty is orbital operations and the Soviet space program. He is author of *Red Star in Orbit* and a new book, *UFOs and Outer Space Mysteries*.

The investigation identified the cause of the series of encounters as the increased launch rate of a secret Soviet space satellite network, consisting of half a dozen orbiting "eye-in-the-sky" payloads designed to monitor missile firings around the world. According to Oberg, what the eyewitnesses in South America and Eastern Europe actually saw on the night of June 14, 1980, were various phases of the launching of the Kosmos-1188 military "Early Warning" satellite (or "EW" satellite) from the supersecret Plesetsk center north of Moscow.

"The Russian observers saw the booster contrails backlit by the midnight sun," Oberg explained. "An hour later, it was early evening in South America and the people there saw the rocket's last stage fire after completing a coast in its parking orbit." Following that rocket firing, the fourth stage apparently dumped its excess fuel, creating a spherical, expanding cloud that was seen over a wide area.



Kosmos-1188's first-orbit path, June 14, 1980. During liftoff and staging (A and B) multiple engines create "jellyfish" effect and four strap-on sections fall away, trailing smoke. Fourth-stage ignition (E) followed by separation of payload and venting of excess fuel (F) occur high above west coast of South America.

Satellites of the Kosmos-1188 type are placed in elongated 12-hour orbits with high points over North America and low points over the Southern Hemisphere. They serve as missile-launch observation platforms. In the past three years, the launch rate of these vehicles has doubled, reaching almost half a dozen per year.

"This UFO apparition once again highlights the extent of distortion and misperception that can surround even simple visual stimuli in the sky," Oberg cautioned. In Russia, eyewitnesses reported that the UFO zigzagged and circled cities; in two cases, according to Soviet UFO "expert" Feliks Zigel, landing craft from the UFO set down on the streets of Moscow and disgorged small alien pilots. In Argentina, gross errors in judging its range and speed were consistently made by pilots and air-traffic controllers. (One tower operator described the cloud as taking off from his runway, then shooting up to 25,000 feet; it was actually at an altitude of two million feet.) Other witnesses told how the UFO responded to their presence and even their thoughts, by changing its motion, or by chasing them.

According to the British *Flying Saucer Review*, widely considered the best UFO magazine in the world, the event was "the most staggering UFO story ever to come out of Russia, and certainly one of the most fascinating yet produced anywhere in the world." Added Gordon Creighton, a British expert with extensive overseas contacts, "I cannot see how they could fail to be true."

J. Allen Hynek, director of the Center for UFO Studies, was quoted as saying that the case was "one of the

most astonishing in years."

"The sensationalist media behaved with typical indiscriminate gullibility," said Oberg. "The original accounts were relayed without critical analysis or any apparent attempts at independent verification." Oddly enough, the two separate events in Argentina and Russia have yet to be synchronized in the UFO media. The Argentine UFO was first mentioned in the *Star*, on August 26, 1980; accounts of the Russian UFO were published in the *National Enquirer* on July 7, 1981.

Oberg compared both reports and assumed they were from the same event. "A great circle orbit connecting the two locations would have taken a typical satellite about one hour, which is in fact the actual time difference," said Oberg. "The orbit would also have had an inclination of about 65°, which is typical of Soviet military satellites—that was the first real clue, based on purely geographic evidence." The actual orbit of Kosmos-1188 turned out to have an inclination of 62.8°, confirming Oberg's original logic.

"Although it was easy to place Kosmos-1188 at the location of the UFO apparition, moving in the correct direction, the next problem involved identifying a physical cause for the visual stimulus, since rockets are small objects that don't normally appear as clouds or plumes." But Oberg made the next breakthrough with the aid of independent records of other, similar manifestations.

"The launch plume effect had already been extensively documented in the case of the Petrozavodsk 'jellyfish UFO' of September 20, 1977," Oberg said. "There, a launching of a spy satellite from Plesetsk was widely seen in northwest Russia, since the contrails from the 4 A.M. launch were being lit by the rising sun" (*SI*, Fall/Winter 1977, pp. 10-11). (Russian UFO proponents still insist that this UFO was a genuine flying saucer.)

"The cloud effect was a little tougher to figure out," recalled Oberg, although similar events had been seen and recognized by Moonwatch satellite-trackers over the years, according to experts at the Smithsonian Astrophysical Observatory in Cambridge, Mass. But similar reports of UFOs over South America had come in on February 11, 1980, and on October 31, 1981, and a quick check of space records showed that these events, too, followed the launchings of Soviet EW satellites by just one hour. A closer analysis of tracking data by Oberg showed that the fourth-stage ignition takes place just off the coast of Chile, and it was to this event that he was able to tie the three UFO sightings.

"The February 1980 event was seen and photographed by Dr. Terry Oswalt at the Cerro Tololo Interamerican Observatory in Chile," said Oberg, "and his precise data pinpoints the trajectory of the Soviet rocket." Meanwhile, eyewitnesses in Chile were reporting television interference and car-chases by the flying saucer, accounts that Oberg contends were totally imaginary or coincidental.

The October 31, 1981, event was widely seen in Argentina. Two pilots landing at the Cordoba airport independently described a "bright, round, huge object in the middle of which there was another, smaller bright object." This actually was the launching of Kosmos-1317. The February 1980 event had been associated with the launch of Kosmos-1164.

More such UFO reports can be expected in the future, Oberg notes. "Only this particular type of satellite performs a fourth-stage rocket burn 400 miles above the southeast Pacific Ocean, but when it does, and when the launch time is appropriate for lighting and the weather is clear, South Americans are going to be seeing more UFOs

in this series."

"What is significant about this event is not the solution itself," Oberg said, "but the disturbing implications for the validity of similar eyewitness accounts elsewhere." The spurious reports of television interference and chases, the grossly inaccurate estimates of range, motion, and speed, and the wild stories of jet chases and even landed aliens and telepathic messages from the UFO, all must be dismissed as invalid.

"These details can be justifiably disregarded in formulating a 'solution' to these UFO cases," Oberg asserted. "They are 'noise,' accidental and inconsequential false trails that, if foolishly trusted, could have forever frustrated any chance of solving the real UFO manifestation." Other UFO cases, where the prosaic stimulus has not yet been identified, may also be accompanied by such unrecognizably false clues that need never be explained—indeed, they must be thrown in the trash can before any explanation is attempted, Oberg contends.

The Soviet reports are interesting in themselves because they may be deliberately distorted by Soviet security forces, according to Oberg's speculation. "UFOs might be considered officially to be a convenient camouflage for secret Soviet military space shots," Oberg suggested. "The KGB might see the topic as harmless ideological diversion. Better the Russian population believe in flying saucers than in the existence of a secret military space program which Moscow hypocritically denies!"

Oberg severely criticized the reliability of UFO data from Russian UFO "experts." "Men like Zigel, Zolotov, Azhazha, Bozhich, and Kazantsev have been so grossly inaccurate on so many testable UFO cases that their credibility should have reached zero," he asserted. "Anybody in the West who believes these men can provide useful UFO data simply hasn't been paying attention to their recent products." One of the best examples of this Western naiveté, according to Oberg, is the recent highly praised Soviet Academy of Sciences statistical study of UFO reports. The finding—that UFO reports seem genuinely bizarre—is based solely on mathematical manipulation of highly questionable data from Zigel's private files. "In computer science we have an appropriate aphorism," Oberg quipped. "Garbage in, garbage out." Yet the Soviet data has been widely circulated as accurate in Western UFO circles.

Astronomy and Creationism: The Evolving Universe

Most discussions of the creationist threat to science (including all 12 books listed on page 73 of the Spring 1982 issue of *SI* focus on issues of biological evolution. The threat is equally serious, however, in astronomy. Not only are evolutionary concepts central to almost all astronomical theory; but, in addition, time scales of many millions of years are required to make any sense of the observed universe, from the accumulation of impact craters on planetary surfaces to the transport of energy from the center of a star to its surface. The absurdity of a creation just 10,000 or so years ago is particularly evident when we consider the universe beyond our immediate neighborhood, since the light we observe today from even the nearest galaxy has required hundreds of thousands of years to reach us. These contradictions are probably greater even than those posed for the life sciences by the creationist movement.

At the conclusion of my introductory astronomy survey course this year

NASA

Jupiter and Ganymede, by Voyager 2

I considered what the consequences would be if I were forced to eliminate evolutionary ideas and deal with a universe recently created in its present form. Following is a summary of the impacts.

There would be no point in discussing the earth as a planet, since all evolutionary relationships among planetary bodies would be discounted. No process that molds the environment could be taught, from planetary differentiation to mountain building to the carving of a canyon by running water, for all require millions of years to be effective. Needless to say, all age dating of terrestrial rocks, lunar samples, or meteorites would be forbidden topics. Impact cratering, the common process that allows comparison of planetary surfaces from Mercury to the moons of Saturn, would be meaningless, as would the ancient river channels of Mars or the changing chemical compositions of the atmospheres of Venus, Earth, or Titan. The dynamical and chemical patterns that provide a coherent framework for understanding the origins of planets and satellites would be irrelevant.

The sources of energy that generate power in the cores of the sun and the stars would be of no interest, since the time it takes for this energy to reach the surface and begin to be radiated to space is longer than the age of the creationist universe. And the origin of the chemical elements in nuclear reactions in supernova explosions would matter little in a universe where all stars were created at once rather than each generation being formed from the debris of earlier stars. In fact, no star could have evolved to the supernova state in the few thousand years since "creation."

The complex pattern of stellar masses, luminosities, and temperatures would be uninterpretable in a creationist universe. Red giants could not be made from main sequence stars, nor white dwarfs from red giants, nor would any of the exotic end-products of stellar evolution, such as black holes and neutron stars, be acceptable in the new curriculum.

Gone would be the problem of understanding the stability of spiral structure in galaxies, since no galaxy could have rotated significantly in the time since creation. We could probably also omit study of stellar nurseries like the Orion nebula, because stars would no longer be permitted to form. And who would care any longer about the consequences of collisions between galaxies or the suspected cannibalism of smaller galaxies by giant ellipticals in rich clusters of galaxies?

In the creationist curriculum, the redshifts of distant galaxies and the expansion of the universe would be simple curiosities, with no bearing on the origin or ultimate fate of the universe. The 3° K radio remnant of the Big Bang would be, I suppose, a strategem of the devil to make us think the universe formed billions of years ago. In fact, the entire study of galaxies and quasars would be pointless, since

presumably these objects do not exist, the light from them having been created en route to us just a few thousand light-years away in order to confuse us into thinking there is a vast and glorious universe beyond our immediate stellar neighborhood.

In short, the new creationist curriculum would omit more than 50 percent of my present course. Gone would be almost every concept that makes sense of the observations, every theory that provides a framework for understanding the staggering variety of planets, stars, and galaxies revealed by modern telescopes. My lectures would be reduced to a recitation of observations whose patterns I would be forced to deny. Overall, the impact of creationism on astronomy would be similar in kind and degree to that on the life sciences—it would remove almost all of the science and return nature to a dark realm of disorganized facts and uninterpretable complexity.

On the positive side, I note that astronomy provides many powerful arguments for an ancient and evolving universe. In some cases these arguments may be more effective than those concerning biological evolution, because they can invoke the quantitative aspects of the physical sciences, where, for instance, the time scales for the evolution of stars can be traced out in detail by modern computers. In addition, astronomical arguments are free from the emotional weight of the nineteenth-century disputes over the origin of humans. I urge that astronomy and the life sciences work more closely together to defend the foundations of our disciplines against the creationist revival.

Cerro Tololo Inter-American Observatory

Eta Carinae Nebula

—David Morrison

David Morrison is a planetary astronomer at the University of Hawaii, a former assistant deputy director of the planetary division of NASA, and a new CSICOP scientific consultant.

Creationist Cosmology

> Heliocentricity, or general Copernicanism, **is an anti-Biblical notion and is the precursor of Darwinism.**

With these words, a group of "creationist extremists" (their term) has widened the fundamentalist attack on modern scientific thought. As pot invariably leads to heroin, the abandonment of the biblical earth-centered universe is apparently seen as the first step on the road to evolutionism, moral decay, and eventually atheism.

The fundamentalist attack now goes well beyond the quarrel with Darwin, as a recent article in a leading creationist publication shows. Einstein's relativity is increasingly under creationist attack, even among those who (at least for now), do not accept geocentrism. The new "science" of creationist cosmology has arisen. (Remember that it is not only the earth

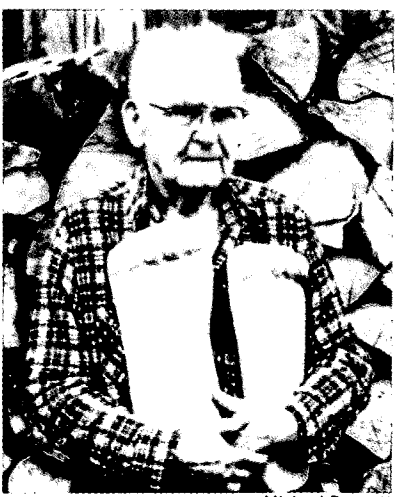
that is supposed to be only about 6,000 years old, but also the entire universe.)

While the geocentrists have not yet convinced the creationist mainstream that the sun orbits a stationary earth, given the increasing anti-intellectual climate in many circles and the amazing success thus far of "creation science"—despite its utter absurdity and gross contradiction of many readily observable facts—Galileo may soon join Darwin on the list of "controversial" theorists whose opponents demand equal time in the schools. Will future science-texts have to give equal treatment to "competing" theories of astronomy and present the "proofs" of a stationary earth?

—Robert Sheaffer

Bigfoot Jokester Reveals Punchline—Finally

Rent Mullens, whose name recently appeared in wire-service news stories and on national television, has been sending tremors through the "Bigfoot" community. A longtime resident of Toledo, Washington, north of Mount St. Helens (in the heart of Bigfoot territory), Mullens, now 86, says he has tramped the woods since 1910 without seeing a sign of Sasquatch. In 1924, Mullens and a companion, George Ross, rolled some rocks onto a cabin along the so-called Ape Canyon and may have been responsible for Fred Beck's legendary Bigfoot "encounter" (a tale with a number of highly questionable aspects to it).



Michael Dennett

Mullens with a set of his carved "bigfeet."

Mullens, a retired logger, disclosed this spring that, while working for the Forest Service in 1930, he and some friends decided to "have some fun." Mullens fashioned a pair of 9-inch-by-17-inch "feet" with a hatchet and a jackknife from a piece of alder wood. Bill Lambert, who was with Mullens, took the feet to a spot at the base of Mount St. Helens where there were some huckleberry pickers. According to Mullens, Lambert walked around the pickers' cars making "Bigfoot" prints. Later in the day, when Lambert, Mullens, and others were at the Ranger Station, the pickers came running to them to report the tracks.

Mullens lost track of his handiwork from the summer of 1930 until 1948, when Bert Lewis, one of the original hoaxers, returned them to him. In 1957 he supplied another pair of "feet" to Ray Wallace, who took them to Northern California.

In all, Rent says he made eight sets of these feet, most of which went to California. After explaining how he carved them, Mullens displayed his last set for the SKEPTICAL INQUIRER. They bore a striking resemblance to the plaster casts of tracks made by such famous Bigfoot proponents as Bob Gimlin, Rene Dahinden, and Roger Patterson.

Mullens believes the Sasquatch legend in California and the Pacific

Northwest is based solely on the hoaxes made from his "feet" and says some of the Bigfoot promoters are well aware of that possibility. He said he has talked with an associate of Roger Patterson who helped hoax Patterson's famous "Bigfoot" film taken at Bluff Creek, California. The costume, Mullens was told, was made from bear hides.

Mullens said he wanted to get the practical joke off his chest and challenges the Bigfoot promoters to show he's wrong. He added that he is willing to undergo a polygraph test to substantiate any and all of what he has said.

—Michael R. Dennett

Michael Dennett lives in Seattle.

Chopper's Ghost: Hijinks at the Dentist

One of the strangest stories out of Europe this year told of the antics of Chopper, a ghost haunting a dentist's office telephone system in Bavaria. Before the mystery was solved, baffled post office (telephone) authorities had spent more than 60,000 German marks, parapsychologists, professors, and priests had offered ethereal theories, the press had had a heyday, and even listeners to a Munich radio program had heard the ghost.

It all started a year earlier, dentist Kurt Bachseitz, 60, in Neutraubling, near Regensberg, West Germany, told authorities. He said he was talking to a patient on the phone when a voice blurted out: "You needn't bother going. It won't do the slightest good." Post office engineers who were called in suspected some simple form of electronic trickery, but couldn't track down the voice on the lines even though they could hear it loud and clear from outside the building. As soon as they

brought their equipment inside, it shut up. They combed the premises for eavesdropping bugs, but found none.

The voice, which called itself Chopper, simply made fun of them. They installed a new line and relaid all the telephone cable in the building. All extensions were dead-ended and a new main line was put in. All to no avail. Even disconnecting the dentist's entire telephone system did no good. The voice remained very much in evidence. It even took to offering love missives to the dentist's 17-year-old assistant, Claudia Judenmann. "I love you, Claudia," it would say, and even answer her answers. She reported she had gotten quite used to it.

The voice filled entire recording tapes. At times it even appeared to come not only from the telephone but also from the washbasin, the spittoon, and once, to the embarrassment of a woman patient using the facility, from the toilet. The voice told her to park her behind somewhere else.

Earlier this year a recording of the voice was played over a Munich radio station. "What have you gone and done, you stupid fools?" the ghost complained in what news reports described as a loud, clean, and throaty voice heard by listeners all over Bavaria. "You've taken away my switch-

board. But I can hear you just as well, so don't you think I'm not still listening in!"

Theories abounded. Freiburg parapsychologist Hans Bender said he suspected the voice was a paranormal phenomenon, and recalled a similar case at a lawyer's office in 1967. Wolfgang Buchel, a professor of natural philosophy, said the voice was an expression of the unconscious, over which we have no control. He said ghosts seem more likely to be active where the work is hard and the people affected have personal problems. Medical doctors called in after the airing of the ghost's voice suggested it was unmistakably the voice of a cancer patient whose vocal chords had been removed by surgery.

A few weeks later, the answer was finally known. The fun was over.

Chopper the ghost was none other than the dentist himself and his assistant. Regensburg's chief public prosecutor, Elmar Fischer, reported that Claudia had made a confession. She and the dentist had disguised their voices and made it seem as if the sounds were coming from different parts of the room. Claudia and Bachseitz had egged each other on until the ghost hit the headlines and there was no turning back. According to news accounts in *Nordwest Zeitung* (March 9, 1982) and the *German Tribune* (March 28, 1982), they had perfected their technique so well that people standing next to them thought they heard the voice coming from another part of the room.

Both Claudia and Bachseitz were liable to proceedings for feigning a crime, which carries penalties of up to three years' imprisonment, but Fischer said they would not be charged. The dentist and his wife closed their practice and went to a sanitarium at their own request. Postal authorities were considering presenting a bill for all their work in replacing the phone lines. Chopper the ghost was finally silent.

—Kendrick Frazier

Clone-Book Hoax Ruling: A Warning to Publishers

Settlement of the suit against the publisher of David Rorvik's *In His Image: The Cloning of a Man* may make authors and publishers think twice before again foisting onto the public as fact a fictional story of an exotic scientific claim.

J. B. Lippincott Co. publicly declared the book a hoax this spring and paid an out-of-court settlement to British biologist J. Derek Bromhall. The total amount of the payment—half from Lippincott, half from Rorvik's withheld royalties—was reputed to be about $130,000. Accompanying the payment to Bromhall was a formal letter of apology from Lippincott. Noting that the book purported to be a true account of the cloning of a boy from the tissues of a man (something that biomedical scientists say is not yet possible, let alone desirable), the publisher stated, "Lippincott concedes that it now believes the story to be untrue."

Lippincott acknowledged that Bromhall did not consent to the use of his name or his research techniques in the book and that Bromhall "never engaged in, or attempted to engage in, or advocated the cloning of a human being. We regret any embarrassment, humiliation, or other injury to him that the book might have caused." Bromhall's work was on the cloning of rabbit cells; the mention of it by Rorvik as part of the basis for the supposed cloning of a human had outraged Bromhall, who brought suit. The book, said Bromhall, "was a fraud, yet it had been put out and

NBC-TV's "Today" show won in the Media category for accepting the Rand matter and airing it without checking sources. "But that's not new," said Randi, "since they also announced a perpetual-motion machine in 1980 that turned out to be a farce."

Randi retracted one previous Uri Award, the 1980 award in the Funding category to the Millennium Foundation, which had offered one million dollars to parapsychologists and then decided to invest it in a psychically discovered oil site. "The wells failed, the money was used up, and the parapsychologists took their begging bowls elsewhere."

As in previous years, this year's Uri winners were notified telepathically, and they were free to announce their winning in advance by precognition if they wished, said Randi. Apparently no recipients did so.

— *K. F.*

Atlanta Child Murderer: Psychics' Failed Visions

In a prominently featured article in the March 24, 1981, issue of the *Globe* tabloid, five "leading psychics" related their visions of the Atlanta mass murderer(s) to the delight of titillated readers. The *Globe* had assembled these miracle-workers as a public service.

Chicago psychic Joseph DeLouise, whose record in other matters certainly does not put him in the running for Psychic of the Year, declared that the murderer was "a powerful woman, like a hospital or sanitarium matron" and was about 5'7" and weighed 170 pounds. "She has a big, round face, and has trouble with her hands or feet," said this paragon of occult knowledge. He went on to reveal that the woman was "possessed," very much like the killer in the "Son of Sam" murders. She had spent time in a sanitarium, and he "thought" she might be working in one. DeLouise also zeroed in on a male companion for this nonexistent woman.

Beverley Jaeger told readers that the killer—a male—wore a uniform and had a "split personality" as well. The St. Louis housewife insisted he had "a job kids tend to trust."

Psychic John Monti agreed that the killer wore a uniform and said he was "possibly" a hospital technician or an ambulance driver. Monti felt this man had a woman accomplice, a social worker. "He picks his victims from hospital records," said Monti. "I don't think he's black, but he has a dark complexion. There's something foreign about him."

George Murphy saw two killers, too, male and female. "They have powerful psychic powers," said George, "and they use uniforms to lure children."

George Chang told the *Globe* that the two killers were a brother and sister team. "The woman's a nurse; the man's a medical technician," said Chang. "His hands were crippled in an accident involving a black person, and he had to leave medical school as a result."

It is hardly necessary to comment on just how wrong these revelations were. However, we should note that the more-than-one-murderer concept had been widely suggested well before these guesses were printed. The possibilities of uniforms and of a medical background had also already been considered in the press.

Also, notice that the fearless clairvoyants are careful to hedge with, "I feel," "possibly," "I think," "something like," and other vague phrases. In the long run, they can't be said to be wrong, because they only got these "impressions"—but never doubt that, had any of them been right, they'd have declared themselves winners on the

strength of their positive statements.

And while we're at it, we haven't heard much from Dorothy Allison lately. Didn't she tell us that she'd given the Atlanta police the name of the killer? No "ifs" or "buts" there, are there? Let's hear from Mrs. Allison.

—*James Randi*

Parasychology Goes to Hollywood: 'Poltergeist' and the Psi Scientists

Parapsychology not only seems to be breaking with traditional scientific concepts, but now more than ever serious psi researchers are modifying established approaches in bringing their field to public attention.

Psi researchers and movie producers have profitably begun to enhance each other's image. The researchers give implied endorsement to a psychic-type thriller, and the researchers get media coverage for their fields—and, of course, secondarily for themselves.

Psi researchers Charles Tart, Dr. William Roll, and D. Scott Rogo are the innovators of this new Hollywood-parapsychology collaboration. In cooperation with director Steven Spielberg, these gentlemen have promoted his new movie *Poltergeist*, and I am sure the only return they receive is the satisfaction that they have done a good service for the parapsychological community.

The previews of *Poltergeist* were not really different from those spliced together for movies like *Carrie, The Fury, Butcher, Baker, Nightmare Maker*, etc., except that this movie had the endorsement of these three noted psiologists.

Tart, Roll, and Rogo were quite convincing as they made statements of "scientific fact," which were interspersed with quick shots of evil faces, suspenseful scenes with eerie background music, and people and furniture flying about. It was really quite moving.

With this new advertising twist, Spielberg should make a lot of money. Also, with its "parapsychological stamp of approval," *Poltergeist* must surely be an accurate representation of how parapsychologists go about their duties. One may anticipate its being much better than those routine occult horror rip-offs.

It is too bad that such a promotional concept was not introduced before. Think of all the exposure geologists could have received had they endorsed *Earthquake;* the FAA, if they promoted *Airport;* and biologists, if they plugged *Inseminoid.*

—*Philip Paul*

Philip Paul is at St. Mary's University in San Antonio, Texas.

By the Light of the Silvery (New) Moon

On May 22, 1982, the Associated Press carried an article headlined as an "eyewitness" report of the British landing on the Falkland Islands on the morning of May 21, as observed from shipboard by Britain's Independent Television News correspondent Michael Nicholson.

A ship's officer, Nicholson reports, had said that the conditions, a clear moonlit night, were not what he had hoped for. "I would prefer, obviously, more cloud and less moon, but tonight's the night and we're going."

It is interesting that the moon was new only about 48 hours later. On May 21, it was a very thin crescent, and did not rise until shortly before sun-up. By

promoted as a true account. . . . I felt that one shouldn't be able to take other people's work to promote a fraud."

Lippincott settled the suit after trial testimony in Philadelphia. A pretrial ruling by the judge had already declared Rorvik's story "a fraud and a hoax."

The settlement should, as Bromhall's attorney, Arthur G. Raynes, said, deter other publishers from publishing fiction as fact. "The result will motivate all publishers to investigate sensational claims before presenting them as scientific fact."

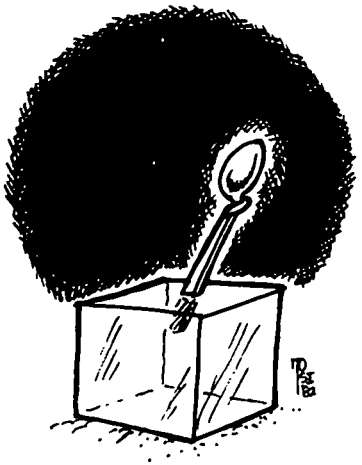
Rorvik's "human cloning" claim did not invoke the paranormal, but plenty of paranormally related claims that critics contend are fiction have been presented as fact in recent years. The settlement in favor of Bromhall may help bring about more awareness by book publishers of their legal and moral obligations to check into the truth of exotic claims they propose to publish and publicize.

—*K. F.*

From Rand to the Pentagon: This Year's Uri Awards

James Randi's third annual Uri Awards were presented in New York on—as is the appropriate custom—April Fool's Day. Named after Israeli performer-turned-"psychic" Uri Geller in honor of Geller's "considerable contribution to the confusion of science," the award consists of a "tastefully bent stainless steel spoon with a very transparent, very flimsy base."

The awards are given for, in Randi's words, "outstanding performances in the pseudosciences of parapsychology and the supernatural." The awards ceremony was staged in cooperation with *Omni* magazine.



The U.S. Department of Defense was the hands-down winner in the Funding category for spending an estimated $6 million of taxpayers' money to investigate the feared "ESP gap." Included in this "psychotronics weaponry" program were experiments to find out whether psychic powers could cause an atomic bomb to explode in the past and whether burning a photograph of a Soviet missile could destroy the weapon.

Parapsychologist Charles Tart of the University of California at Davis was this year's winner in the Academic category for his startling discovery that predictions of future events are more difficult the further ahead the events are in time. "Though this was rather obvious to ordinary folks," said Randi, "it was established by Dr. Tart only after months of research."

The winner in the Performance category was Tamara Rand, the sexy "psychic" who talked friend and TV host Dick Maurice into perpetrating the hoax that she had predicted in a video-taped interview the assassination attempt on President Reagan and "showed her spunk by then bringing a multimillion-dollar suit against Maurice for 'misrepresenting' her claim."

Signs-That-Make-Us-Look-Twice Department

Photo by George A. Sharp

Sign on Pennsylvania's Route 422.

Do you suppose the folks at the Pennsylvania highway department have been in touch with the psychotronic weaponry chaps at the Defense Department?

---

then even the very feeble light the moon could reflect to earth was swamped by the approaching daylight.

If the moon, when nearly new, can be imagined as producing a "moonlit night," is it any wonder that all manner of things can be "observed to occur" at full moon?

—*George O. Abell*

George Abell is professor of astronomy at UCLA.

CSICOP Briefs

• An Astrology Subcommittee of the Committee for the Scientific Investigation of Claims of the Paranormal has now been established to serve as a focus for evaluations of the claims of astrology. The group will also be concerned with human belief in systems of divination. The chairman of the subcommittee is I. W. Kelly, a psychologist in the College of Education at the University of Saskatchewan, Saskatoon, Canada. Other members include psychologists D. H. Saklofske of the University of Saskatchewan, Ray Hyman of the University of Oregon, and James Rotton of Florida International University, and astronomers Roger Culver of Colorado State University and George O. Abell of UCLA.

• The newest Fellows of CSICOP are paleontologist Stephen Jay Gould and aeronautical engineer and inventor Paul MacCready. Gould, professor of geology at the Museum of Comparative Zoology at Harvard University, is well known for his writing and research on evolution. He has worked to correct creationist distortions of evolutionary science, which included giving expert testimony at the Arkansas creation-science trial last December. His book *Mismeasure of Man* deals with misleading efforts to identify and quantify intelligence as a single entity and to rank people accordingly. One science magazine earlier this year named him "Scientist of the Year." MacCready, president of AeroVironment Inc., in Pasadena, Calif., is the designer of the *Gossamer Condor*, the first human-powered aircraft, and its successor, the English Channel-crossing *Gossamer Albatross*. He has long been interested in developing ways to spread techniques of critical thinking to the general citizenry, and is active in several such programs.

• The first approved local chapter of CSICOP has been established on the San Francisco peninsula. The group, the Bay Area Skeptics will build a cadre of people interested in critically examining paranormal claims originating or promoted in the Bay area, a location that, as the group notes, seems to have more than its share of paranormalists. It held an organizing meeting on June 26, 1982. The group includes, but is by no means limited to, present associates of CSICOP in the San Francisco Bay area. For further information contact Robert Sheaffer, 1341 Poe Lane, San Jose, CA 95130, or Bob Steiner, Box 659, El Cerrito, CA 94530.

• In response to reader requests, a six-year cumulative index to the SKEPTICAL INQUIRER has now been prepared and published. See the announcement page 54 of this issue for details.

—*K. F.*

Book Beat

James Randi's two books, *The Magic of Uri Geller* and *Flim-Flam!*, will be reprinted in revised and updated paperback editions this fall by Prometheus Books, Buffalo, which has obtained the reprint rights. Both books have been out of print, *Flim-Flam* since just a few months after its hardback publication by Lippincott and Crowell in the fall of 1980. The Geller book will be retitled *The Truth About Uri Geller*. Randi has also prepared a testing kit entitled *Test Yourself for ESP*, being distributed by Dover Books.

The second edition of Martin Gardner's much-praised *Science: Good, Bad and Bogus* (Prometheus) includes an index. This book was nominated for the National Book Critics Circle Award and was lead selection of the Book-of-the-Month Club/Science in May. It will be published in a paperback edition by Avon in January.

Larry Kusche's book *The Disappearance of Flight 19*, reviewed in our Summer issue, is now also available in a trade paperback edition for $4.95 from Barnes and Noble.

—*K.F.*

When a man's knowledge is not in order, the more of it he has, the greater will be his confusion.

—Herbert Spencer

What we need is not the will to believe, but the wish to find out.

—Bertrand Russell

Psychic Vibrations

You may have seen the UPI story last December about how a vision seen by Chicago "psychic" Fred Rosen prompted Vail Associates in Vail, Colorado, to make extra safety-checks on its Lionshead gondola, which carries thousands of skiers a day up the mountain. Rosen, principal of the Peter Reinberg Elementary School in Chicago, called the company after having a vision of the gondola being involved in an accident. He gave the likely date of the mishap as December 17.

Rosen said that he had started hearing voices after he began practicing meditation about two and a half years earlier. He claims that he once psychically located a crack in the wheel of an Amtrak train. The wheel was allegedly found and replaced because of his warning.

Jon Goldman of Vail Associates checked Rosen's background. "He's a responsible person," Goldman told the press. He then ordered additional safety inspections of the gondola, including an ultrasonic test. The Vail organization even went so far as to post a warning near the gondola telling of Rosen's premonition and informing skiers of the precautions that had been taken. One skier, when he was asked about the sign, told reporters: "It's ridiculous. I can't believe they put that up."

What you probably did not see was any follow-up to the story. I contacted Vail Associates and learned that both the Colorado Passenger Tramway Safety Board and an engineer from the insurance company found the lift to be in excellent operating condition. No accident of any kind occurred.

* * * * *

The *Bible Science Newsletter*, a leading creationist publication, published several resounding new proofs of the correctness of creation science in its May 1982 issue. Dr. Russell Akridge comments about the 3-degree cosmic background microwave radiation that

evolutionist scientists interpret as a remnant of the primordial fireball of the Big Bang. Akridge disputes this interpretation, saying that if it were correct all of the radiation would have slipped out of the universe at the speed of light, unless the universe were enclosed by a "closed, expanding, perfectly reflecting coating." He believes the background radiation is the result of our galaxy's slowly heating up due to the release of energy from its stars. This assumption would establish the age of the universe at about 6,600 years. "This date for the origin of the universe is in good agreement with the literal biblical date of creation of 4004 B.C. as calculated by Bishop Ussher," Dr. Akridge writes. As to why the astrophysicists have not themselves discovered this fact, he suggests that "the natural mind of man has been blinded by Satan so that he cannot see the obvious, that the galaxy has heated itself to 3°K in the approximately 6,000 years since Creation."

Another article in the same issue argues that the current trend of human population growth proves that the earth is only a few thousand years old. "Several independent studies have shown that known population trends fit very nicely into what would be expected if the world's population of 4,500 years ago was 8." The Bible Science Association, publisher of the newsletter, has also recently published a pamphlet titled "A New Interest in Geocentricity," by Professor James Hanson. It gives scientific and biblical arguments attempting to show that the sun and all of the planets orbit the earth. It is available for 50 cents from the Association at 2911 E. 42nd St., Minneapolis, MN 55406.

In another creationist development, Norman Geisler, a professor of theology at the Dallas Theological Seminary, gave this answer to the UFO question at the Arkansas creation-science trial. Asked if he believed in UFOs, he replied, "Yes, I believe UFOs exist." Asked to explain what they are, he replied, "UFOs are a satanic manifestation in the world for the purpose of deception."

* * * * *

California's lead in pioneering weird things is so commanding that it seems unlikely that any other state has a hope of catching up. In Oakland, a group called Wingsong teaches people how to wish themselves rich. Lisa de Longchamps, founder of Wingsong, has developed what she called a "divine plan of opulence," which she will share with anyone willing to part with $815. Participants are shown how to acquire wealth through "manifesting," a sophisticated form of wishing. One young woman sitting in on a Wingsong workshop was cooing over a brochure showing a $38,000 luxury car. "That's the one I want to manifest right now," she said. No proof is available that the method actually works, but Ms. de Longchamps has certainly manifested herself a bundle. The consumer fraud division of the local D.A.'s office says that groups like Wingsong, which are incorporated as "therapy" groups, are not normally investigated or prosecuted.

In San Jose, veterinarian Ihor Baskow offers holistic health-care and acupuncture for pets. One of Dr. Baskow's patients was a 9-year-old Dalmation suffering from a staph infection, arthritis, digestive problems, and an apparently allergic reaction to dog food. When the dog reportedly failed to respond to conventional treatment, its owner brought it to Dr. Baskow, who tried a holistic approach. In addition to acupuncture, the dog was treated with herbal foot washes, brown

rice, chopped vegetables, chicken broth, vitamins B and C, garlic, zinc, and soy sauce. The dog is still alive!

At San Francisco State University, and a few miles down the peninsula at Stanford, Thomas Lin Yun is teaching the ancient Chinese philosophy of *feng shui* as a visiting professor. Feng shui is the ancient doctrine of how the arrangement of rooms, furniture, houses, and graves affects a person's fortune. Many of Lin Yun's followers consider him to be a *bodhisattva*—an enlightened being who has chosen to return to earth to help humanity. According to feng shui, architects must exercise great care in designing buildings lest their occupants' health or fortune be adversely affected. For example, a rafter above one's head can be a source of constant headaches, while a beam above one's stomach can lead to ulcers, backache, or indigestion. Working or cooking with your back to the door may cause you to become sick, or even lose your job. Lin Yun admits that feng shui is not based on logic, but adds, "Fifty years ago going to the moon seemed illogical, too." He explains that "transcendental knowledge is usually hard for the intellect to accept."

* * * * *

Idaho farmers, who annually suffer an estimated $5 million loss due to hungry rabbits, have a new and unexpected ally: spiritualist Curtis Walker, who said he was "casting out all rabbits in the state if Idaho." Walker, who lives in Des Moines, Iowa, claims to have the power to make small animals "just disappear." He explained that so far he has not been able to banish anything larger than mice and silkworms, but he expected to be able to kill all rabbits in the state within 24 hours. He expressed concern that he may also inadvertently cause pet rabbits kept by families within the state to disappear, but explained that "sometimes things like this happen which just can't be helped." Attention Fortean researchers: Has there been a spurt of "missing rabbit" reports filed in Idaho lately?

* * * * *

Some truly amazing advances in psychic science are described in a recent issue of *Genesis*, a skin magazine. One young man in California is reported to practice "psychic magnetism," a telepathy he uses to seduce women. Author Jeffrey Mishlove ventures the guess that within two or three centuries lovers will be able to stimulate each other to mutual orgasm psychokinetically. Not everyone is as pessimistic as Mishlove about the timetable. San Francisco area "psychic" Gerry Patton claims that right now "a lot of people are having long-distance sex astrally. If you're leaving town and can't take your girlfriend with you and you want to have some hanky-panky, you can do that now through astral projection."

In a similar vein, Art Gatti's book *UFO Encounters of the Fourth Kind* tells of many alleged sexual encounters between humans and aliens. Perhaps

the most interesting is that of Lydia Stalnaker, a Florida woman who claims to have been abducted by a UFO and became "possessed" by the spirit of a female alien named Antron. Lydia says that having Antron around has improved her sex life. "I have more feeling, more everything than before . . . That might be the reason why sex is so good—because there's another person in there enjoying it."

—Robert Sheaffer

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Prophecy: The Search for Certainty

The idea that some people have a gift of prophecy fills a basic human need, thus its enduring popularity despite a lack of evidence of validity.

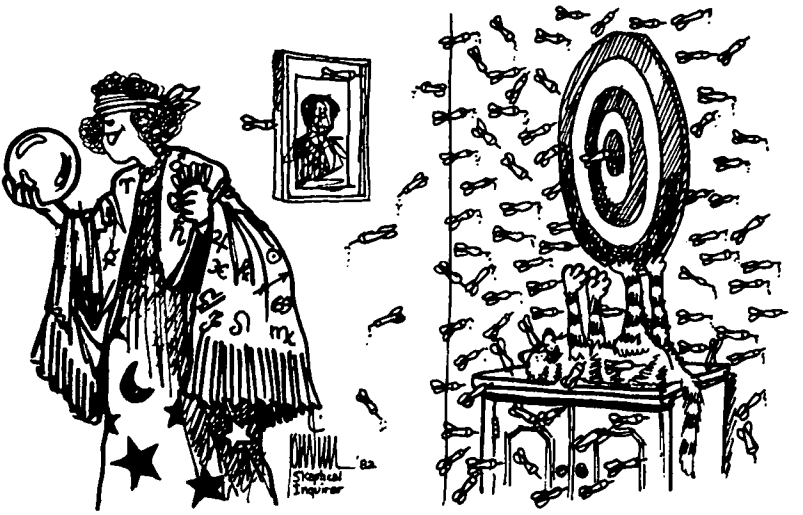
Charles J. Cazeau

Tomorrow morning thousands—or, more likely, millions—of people across the country will open their morning newspaper, turn to the horoscope page, and read something like this:

> Someone you will meet at a party may help you get the financial backing you need. A new romance could blossom into a lasting relationship. Trust your instincts in a confrontation with a neighbor.

It would seem that whoever wrote those words is able to glimpse into the future and tell each of us something about our own personal fate. Are there people who can really do this? There are probably few things more tantalizing to the human mind than the thought of being able to pierce the veil that shrouds future events. Think of the power. To know what will happen to other people, coming events, and the course of history. One possessed of such ability would be almost guaranteed instant wealth by foreseeing and acting upon stock prices, results of major sports events, and lotteries. On the other hand, the prophet involved may be without materialistic leanings (as many claim). Perhaps merely the fame and reputation is enough. To command awe and admiration as a seer from less gifted individuals is certainly heady stuff. There are many people in modern society who claim to have this gift of prophecy. There are also armies of followers of past prophets who see things fulfilled, thus offering proof of the veracity of prophecy. A large majority of people register uncertainty but tacit acceptance of claims that some people have this power.

Charles Cazeau is assistant professor of geology at the State University of New York at Buffalo. He is coauthor of Exploring the Unknown.



Prophecy goes back to the beginnings of civilization. Prophets of Babylon were sorting through livers and intestines of pigs and sheep more than five thousand years ago looking for portents to guide their king or ruler. The rise of prophecy coincided with astrology, a more physical, or mechanical, method of forecasting compared with the intuitive means of the prophet (e.g., dreams and trances). Either way, attempts to predict the future spread into Egypt, Greece, and other places. Prophecy was a profession and formed a special social class, with its own schools to train budding prophets. The Oracle at Delphi was famous for more than a thousand years. The "Oracle" was usually a virgin dealing out advice (for a fee) while in some kind of trance brought about by self-hypnosis or perhaps by the use of drugs. The oracles of today still ply their trade. They use crystal balls, tarot cards, tea leaves, Ouija boards, computers, or simply "mental power." Such paraphernalia are more antiseptic than the entrails used by ancient prophets.

The Need for Prophecy

The viability of prophecy resides in the innate need to know the future. It is certainly understandable. Confronted with the complex assemblage of factors we call the environment in which a person must survive (food, shelter, protection from enemies as well as sexual triumphs and other ego-building events), at any time there can be a feedback of self-doubt, of uncertainty about one's self. As long as there is doubt and uncertainty, there is anxiety and fear, whether we are talking about a starving Neanderthal or a modern suburban businessman. There has always been

the need for protection against an uncertain future. The Neanderthal sharpened his spear and looked to the skies for some sign; the businessman studies stock-market forecasts and takes out more insurance. For many, the question is, Is the future foreordained? And, if so, who can tell me what is in store?

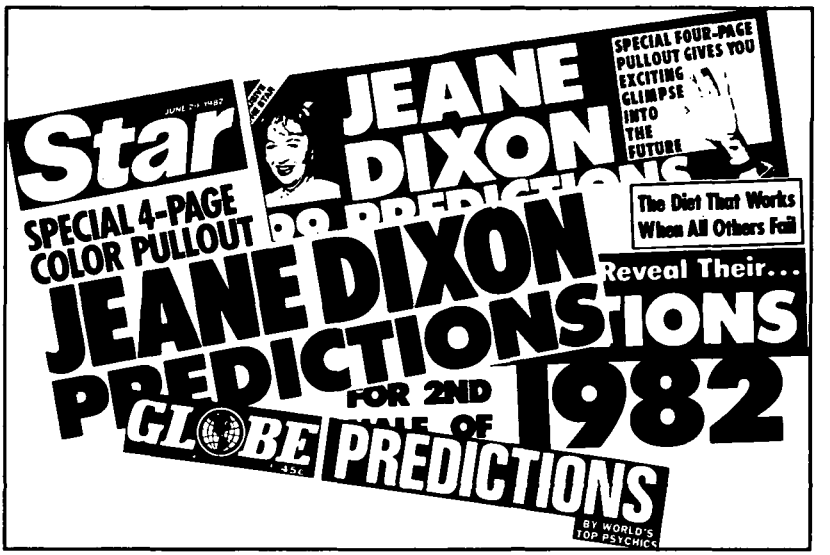
That so many people have posed this question throughout history is reflected in enduring stone monuments like Stonehenge and the Great Pyramid of Cheops. There is, as we know, good evidence that Stonehenge may have served as an astronomical observatory with the capability of predicting the positions of the sun, the moon, and the planets and their eclipses. These in turn may have laid the grounds for meteorological and agricultural forecasts. The Great Pyramid may have served as a giant stone calendar to determine when the Nile would overflow its banks and other natural events. Remnants of a "shadow floor" on the north side of the Great Pyramid suggest that markings there denoted solar positions during the year. In short, concern about one's fate is universal in time and place. It is only a small step from being able to predict astronomical events (which are indeed real predictions) to the persuasion of a populace that the future *can* be known, and then generalized to the petty and the personal, a condition of belief both unfortunate and pathetic for the gullible.

We Are All Prophets

There are certain inevitable future events that any person can predict. The sun will rise tomorrow (it can even be predicted to the minute); you will grow older and will die someday; water will rise five feet along the Atlantic coast at the next high tide; there will be a major earthquake during 1982. The list of absolute and virtually certain prophecies is actually a long one. By the way, you can't miss on an earthquake prediction. There are a million earthquakes a year, and a major one every two or three weeks somewhere in the world.

There is another list of futuristic events that are not so certain but which the individual has a good chance of actualizing by manipulating events in the present. For example: You conceive the idea that you would like to own your own business someday. You save money, invest, work hard, and this comes to pass. More mundanely, you wish to see a certain football game next fall. You buy tickets and make plane and motel reservations. Chances are you will be watching that game next fall. In a sense, college students are attending classes and working for a degree to assure themselves of the self-made prediction for a higher quality of life. Thus we can all be prophets.

The type of predictions referred to above are rather self-evident. Unique human events, such as whom Prince Charles would marry, whether a president will be shot, or if Fidel Castro will catch pneumonia



next December, are the most chancy to predict. Let's take a look at some of those who say they can do this.

The So-Called Genuine Prophet

A modern prophet of wide acclaim is Jeane Dixon, who lives in Washington, D.C. She writes astrology columns for television and many newspapers, advising millions of people daily about how to conduct their lives and about their future. One of her devoted admirers, Ruth Montgomery, has written *A Gift of Prophecy*, a book about Jeane Dixon's life and "powers." Dixon says that her power comes from God and that she has a special mission—a message to spread to mankind. This is quite a mouthful and it is logical to look for the basis for such assertions.

A Gift of Prophecy is a gushy, gossipy mish-mash of praise for Mrs. Dixon. It makes clear, however, that the linchpin of so-called prophecy that catapulted Mrs. Dixon to fame was the alleged prediction of President Kennedy's assassination in November 1963. The popular version is that Mrs. Dixon foresaw that Kennedy would be shot and killed if he went to Dallas. Actually, her prophecy was made several years earlier and stated simply that the 1960 election would be won by a Democrat—which is not too startling when you consider that a Democrat had been president for about 30 of the previous 50 years. However, she also predicted that this president would die (not necessarily be assassinated) while in office, but not necessarily in his first term. That gave her eight years to play with; and,

since presidents are usually elderly, they do sometimes die in office, plus the fact that they are always subject to the threat of a kook with a gun who wants to make history. Dixon did not mention the name Kennedy, the city of Dallas, or any dates. This, then, seems to be anything but a dramatic prophecy. As 1960 approached, Mrs. Dixon had a vision of the next president as young, blue-eyed, and brown-haired. Despite John Kennedy's fitting this description (as did thousands of other people), Mrs. Dixon announced that Kennedy would *not* be elected! Does it require a Divine Source to construct such flimsy prophecies? Vague prophecies have a habit of becoming notoriously specific after the event. We read in *They Foresaw the Future*, by Justine Glass (p. 224), that Mrs. Dixon also specified the exact day of Kennedy's death, that he would be shot in the head, and that the assassin would be Oswald. I know of no evidential foundation for these specifics except in the imagination of the believers. One of the most disturbing things is that nobody mentions the failed prophecies. They seem to be conveniently forgotten. Most "psychics" make many prophecies about a wide range of events, apparently to increase the odds of getting a hit. Mrs. Dixon, for example, made the following prophecies, among many others on record.

Prophecy	Comment
Russia will be the first to put a man on the moon.	Wrong.
Shriver and Nixon will serve their country well.	Dixon also said she had foreseen Watergate.
Fidel Castro was either dead or in China (in 1966).	He was neither.
The Vietnam war would be over in 90 days (in 1966).	Wrong.
There is a great future in store for Senator Edward Kennedy.	How come Dixon missed Chappaquiddick?
Russia will invade Iran in 1953.	This did not happen.
Russia will invade Palestine in 1957.	This did not happen.
Walter Reuther would make a bid for the presidency.	He did not.
Robert Kennedy would decline in popularity during 1967.	But not that he would be shot and killed in 1968.
Jackie Onassis would be involved in international diplomacy (in 1977).	We're still waiting.

Let us turn next to Nostradamus, an earlier and renowned prophet, believed by many to have been the greatest of all time. This sixteenth-century astrologer and physician left us with a legacy of predictions spanning the centuries from his day to the present, as well as several prophecies that are perceived as yet to be fulfilled.

Nostradamus compiled his predictions in groups of 100 called "centuries." There are ten centuries, all complete except for Century VII, which has 42 prophecies, for a total of 942. Each prophecy is in the form of a quatrain, or four-line verse. Unfortunately, since the quatrains are extremely obtuse, written in archaic French (even for the sixteenth century), and couched in elaborate symbolism and code, according to believers these quatrains only become clear after the event. They require not only translation, but also interpretation. That leaves the passages open to almost any interpretation.

According to a recent television program narrated by Orson Welles and advertised as "The Man Who Saw Tomorrow," Nostradamus was supposed to have foreseen the atomic bomb, air travel, submarines, Hitler, the assassination of John and Robert Kennedy, and a third world war. Before getting carried away by all this, it should be noted that the television program, labeled as "controversial," was anything but. Its main thrust was to persuade viewers that Nostradamus was uncannily correct in seeing far into the future—without error. There was barely a murmur of a suggestion that Nostradamus could be wrong. One scene shows soldiers exhuming Nostradamus' body during the French Revolution and finding a medallion lying on his chest purporting to predict his exhumation. That was rather strange, since Nostradamus was buried in an upright position.

Here is a Nostradamus quatrain supposedly describing a twentieth century air battle (Century I, quatrain 64):

> At night they will think they have seen the sun,
> When they see the half pig man:
> Noise, screams, battles seen fought in the skies:
> The brute beasts will be heard to speak.

This has been interpreted by Erika Cheetham. The sun at night is exploding bombs or searchlights, the half pig man is a pilot with goggles and oxygen mask, and the beast speaking refers to the use of radio. This is one of the more obvious of the great prophet's quatrains.

How about predictions about the Kennedy family? At least nine quatrains have been interpreted as relating to the assassination. Predictions mentioning "brothers" or "three brothers" are said to be about the Kennedys. I examined all these and found most of them to be rather vague. Here is one of the "more specific" ones (Century IX, quatrain 36):

A great king captured by the hands of a young man,
Not far from Easter, confusion, a state of the knife:
Everlasting captives, times when the lightning is on top,
When three brothers will be wounded and murdered.

Lightning on top is the firing of the rifle that killed John F. Kennedy, but neither John nor Robert was killed near Easter (November and June). Other elements here have no meaning.

Nostradamus has the reputation for giving precise dates of events. Let's check this out (Century VIII, quatrain 71):

The number of astrologers will grow so great,
That they will be driven out, banned, and their books censored,
In the year 1607 by sacred assemblies
So that none will be safe from the holy ones.

Interpreter Erika Cheetham (1973, p. 335) notes to her credit that "this dating appears successful when reading other commentators who all apply it to the Council of Malines of 1607, which banished astrology. But I can find no record of this council existing at all. It was probably invented by a prejudiced commentator of Nostradamus!"

For a long time, everybody agreed that certain quatrains of Nostradamus applied to the era of Napoleon. However, at the onset of World War II they changed their minds and decided that Nostradamus was talking about Hitler's Germany. This point underlines how sensitive these predictions are to interpretation. For example (Century I, quatrain 57):

By reason of great discord the earth shall quake,
Revolt destroys the old order and lifts its head to heaven.
The King's mouth will swim in its own blood
And his front (face), anointed with milk and honey,
roll upon the sod.

This has been interpreted as relating to the beheading of Louis XVI of France. Fair enough, but since the quatrains are in no particular chronological order, might this quatrain equally apply to the rise of Adolf Hitler (the King) through revolt against Hindenberg's government, his persecution of the German Jews (own blood), and the front (the Russian Front), where at first the Germans were welcomed as liberators (milk and honey) by the Russian peasantry (the sod). The expression "roll upon the sod" might also be a foretelling of armored Panzers.

One more point to consider is that prophecies made for a vague and unspecified future and framed in ambiguous terms have time working in their favor. Here is another quatrain:

Sybil, ancient Greek prophetess of legend and literature, as painted by Michelangelo.

When the bald one shall come out of the East,
The earth shall tremble with iron.
Fire, blood, rust, frogs,
Then the long darkness begins.

Rather cryptic. Is this a Nostradamus prophecy of a specific event to take place during a 300 to 400 year period? I am willing to bet that during such a long interval of time, some event in the world will occur that seems to hit it right on the nose (subject to interpretation, of course). As a matter of fact, it is not a Nostradamus quatrain. I made it up myself about an hour ago.

To sum it up in the words of Ellic Howe, "Nostradamus composed them [the quatrains] with tongue in cheek, and . . . he was well aware that there is an enduring market for prophecies and particularly veiled ones."

Some Anti-Prophecy Arguments

A Foreordained Future. If some individuals really have the power to see future events, that would suggest that such events—indeed all events—are predetermined and immutable. I am not speaking here of the rising and setting of the sun or like phenomena that *are* inevitable for the next several million years, but of human events. These are the events that prophets dwell upon almost to the exclusion of all else. It is one thing to note the inevitability of the sun rising next year or a hundred years from now, and on the other hand to forecast that your cousin Billy will fall out of a window next Tuesday and skin his elbow. There is almost an infinite multiplicity of events large and small leading up to and influencing the

actualization of any occurrence in the future that are beyond human power to perceive. Why should we think that Billy's skinning his elbow while falling out of a window was inexorably foreordained at the time the universe came into existence some ten billion years ago and that the knowledge of this was then placed in the mind of some privileged person?

Prophets Ought to Be Rich and Famous. Prophets should be listed among the world's most famous and wealthy people. Perhaps the nonmaterialistic psychic feels an obligation not to use the gift for personal advancement. Yet we have not heard of prophets turning over royalties for books and columns to charity.

Prophetic Dreams. There have been many prophets and even ordinary people who have received a true and documented prophecy while dreaming. Such dreams are often described as "uncannily accurate." But think. Consider that all people sleep. That is usually when a person dreams. Millions of people sleeping means millions of dreams. Assume that in the United States, with about 230 million people, one person out of every three recalls a dream within a 24-hour period. Then each week there are more than a half-billion dreams that people remember and can recount. That translates to more than 24 billion dreams a year in the United States alone, neglecting the other 4 billion or so other people in the world who are also having dreams they remember. Is it not likely that somewhere in this almost infinite legion of dreams someone hits upon an occasional future event purely by statistical accident that is later described as "uncannily accurate." You could lay money on it.

Nonprophecies. Nonprophecies abound among those who have in one way or another established reputations as seers. Here is an example from Jeane Dixon's prophecies for post-1966 that are described as "astonishing" by her promoters:

> Our foreign policy should be motivated by the desire to protect American interests, rather than by "some mysterious humanitarian ideal." We should **not try to make over European nations in our own image, but rather accept the differences and work with them.**

Is this a prediction? Of what? It might have been a casual remark made by our Secretary of State. Yet such statements are robed in the aura of "prophecy."

External Signals. It is certainly true that "coming events cast their shadows before." Some "psychics" are adept at spotting these signals or assessing trends. For example, at the onset of World War II it did not take a prophet to foretell that there would be battles, that people would be killed, that there would be suffering and, ultimately, peace. In the same way, odds can be narrowed by the prophet who recognizes trends, such as the hostility between the Polish people and the Soviet Union. Forecasts can be made in a knowing way that there will be "trouble between the two,

even armed intervention." At a more personal level, clever predictions for a celebrity can be based upon age, habits, health, personality, and character.

Track Record. Over the years prophets have come forth to make their predictions (including vague prophecies and nonprophecies) for the coming year or years. Such predictions have received wide circulation in popular books and tabloids. I made a survey of the predictions of America's "top psychics" for the second half of 1979 published in the *National Enquirer* (July 3, 1979). There are dozens of predictions. I was unable to identify a single "prophecy" that came true during the latter half of 1979. Among the silly predictions, we find that, not one, but two Loch Ness monsters would be captured, that geologists drilling under the Arctic ice cap will find a fountain of youth, and that an oil boom in Arizona will solve our gasoline problems for good.

Conclusions

The observations that have been presented here indicate that the whole idea of personal prophecy is spurious. I see no science from those who claim it works. The notion of prophecy fulfills a human need that all of us share: to know what will happen to us. Self-proclaimed prophets, for the most part, prey upon this need, often in their own self-interest.

There are those who, in the face of no hard scientific evidence for prophecy, invoke Divine Guidance. Such prophets seem to be saying that (1) all events are perforce ordained, and (2) only a few have been granted by a Supreme Power the "gift" of seeing the future. Apart from the arrogance involved, this would seem to mean that we must accept a world in which there is an absence of control by human beings over their own destiny, including such trivia as what we decide to eat for breakfast next week.

Thus we would be led to the assumption that a Cosmic Being has created a universe in which all of us are mindless marionettes. More worthwhile is a world whose future depends upon constructive activities in the here and now. Better to make our own futures than sit around and wait for them to happen.

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Nostradamus: The Prophet for All Seasons

He's probably chuckling at the contortions modern followers go through to turn his vague verses into profound prophecies.

James Randi

Michel de Nostredame was born in the town of St. Remy, Provence, France, on December 14, 1503, of well-educated middle-class parents. A brilliant student, he studied the humanities at Avignon, obtaining a degree in medicine at the famous University of Montpellier at age 26. He practiced in Marseilles and Toulouse. All of his first family died early, whereupon he retired to Provence and remarried. At about age fifty, he took to composing vague four-line verses arranged in groups of one hundred, appropriately called "centuries." They were supposed to be prophecies, couched in an eccentric and already archaic form of Latinized French peppered with what appear to be various foreign words and expressions. The model for his quatrains was *vers commun,* which requires lines of ten syllables with a strong pause after the fourth syllable of each line. Where this model appears to have been abandoned, we may strongly suspect that an overzealous editor has assumed beyond his limits.

The poet became a court favorite and was visited by royalty from all over Europe, who showered him with gifts and various titles, though in his own home-town he was without honor—a fate to be expected. Nostradamus, as he was now known, took up the study of astrology to further his prophetic powers, though he seems not to have known very much about it, since he essentially used the language of that art only to express his ideas. By the time he died in 1566, he had published several "almanacs" of prophecy, as well as the centuries, thus giving us some 950 verses to conjure with.

Nostradamus explained the vague manner in which he wrote the quatrains as a means of predicting the future without clearly saying what

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would happen, so that "they could not possibly be understood till they were interpreted after the event and by it." How very true. This is a common artifice of "psychics," forcing the victim to fit the facts to the theory, or, as in this case, to the prediction.

At least this prognosticator was not as poorly represented by the various editions of his writings (with several very notable exceptions) as was England's famous Mother Shipton, who was helped along in accuracy by generous rewritings of her verses and a great number of totally spurious after-the-fact stanzas. Nostradamus was nonetheless "improved," and some quatrains were invented by the Nazis as propaganda devices in order to bolster their image and their future. Several of the genuine verses were used by both the Nazis and the Allies, each attempting to prove exactly opposite meanings with equally good methods. Even within his own century, those who needed Nostradamus' posthumous support were not averse to adding to his output.

Consider, too, the great difficulty in arriving at even a consensus translation of the verses, due to the nonstandard language, the puns, and the seemingly invented words. Some verses were clearly contemporary political lampoons, and it seems quite possible that adequate study would reveal that many of them are of this nature. Evidently many errors and changes were made by the printer, too, since the cadence of the lines—which the author would have adhered to with great care—is occasionally broken without cause.

Then we have the astonishing claim that the two pairs of lines in each verse often refer to events far separated in time and place—and that just as

often they do not! Some interpreters choose a line or two from different verses and then link them together to form a required prediction. We are told that there is no temporal sequence implied by the order in which the quatrains were written (the term "century" was not meant to refer to a period of time) and that a statement may refer to any past, present, or future event.

In view of all these permutations and combinations, and the wide latitude allowed in analyzing paranormal matters in general, it seems reasonable to the critical observer that this seer could hardly fail any examination of his claims made by an incautious investigator.

Let us consider translations and interpretations of a few verses, as given us by prominent proponents of Nostradamus. These experts will be referred to by their last names only. Proper translations are by the courtesy of Everett F. Bleiler, who, under the pen-name "LeVert," wrote *The Prophecies and Enigmas of Nostradamus* (Firebell Books, P.O. Box 804, Glen Rock, NJ 07452, $20.00), the work of a scholar familiar with the French of the period and the historical/political influences that shaped the writings of Nostradamus. This book is an invaluable source for anyone attempting to make sense of the verses.

Century I, verse 16:

Faulx à l'estang, ioinct vers le Sagitaire
En son hault AVGE de l'exaltation
Peste, famine, mort de main militaire
Le siecle approche de renouation.

(Note: "***Faulx***" and "***hault***" would be rendered as "***Faux***" and "***haut***" in modern French, and other words are somewhat different as well, so that simple use of a dictionary—or for that matter, an ordinary working knowledge of the language—is hardly sufficient to the task of translation.)

Translation:

Scythe by the pond, in conjunction with Sagittarius
At the high point of its ascendant—
Disease, famine, death by soldiery—
The century/age draws near its renewal.

And how is this interpreted by the experts? Try this:

When Saturn is in Aquarius,
And Sagittarius is ascendant,
Disease, famine and death by war,
As the century approaches renewal.

Not bad, though where Saturn and Aquarius came from is a mystery. But expert Wollner says the year indicated here is 1699, while Roberts says it's 1999! Astrologically speaking, the planet Saturn is in the sign of Aquarius one-twelfth of the time, and Sagittarius is "ascendant" each and every day! But read on:

> When a fish-pond that was a meadow shall be mowed,
> Sagittarius being in the ascendant,
> Plague, famine, death by the military hand,
> The Century approaches renewal.

Roberts interprets this as meaning that between November 23 and December 21, 1999, the Ultimate War will arrive. But his treatment of that first line is just a bit loose.

Now, if any event can be found in history, past, present or yet to come that involves a war occurring near the close of a century—or an "age" of any kind—we have a "hit." Obviously it will not be difficult to find a pond (marsh, lake, pool, reservoir, aquarium, swamp, etc.) that was once a meadow (field, farm, golf course, pasture, race track, etc.) that is mowed (swept, cleared, harvested, ploughed, etc.), and it need not even be at or near the war zone in time or place. Furthermore, any war in any 90s decade will fit, since we need not use the first two lines if we don't need them! Look in some history books and see just how many wars since the sixteenth century fall into this category.

In examining this next verse, I did some research and came up with some interesting facts. Century II, verse 51:

> *Le sang du iuste à Londres fera faute*
> *Bruslés par fouldres de vingt trois les six.*
> *La dame antique cherra de place haute:*
> *De mesme secte plusiers seront occis.*

Translation:

> The blood of the just shall be wanting at London.
> Burned by thunders, at twenty-three the sixes—
> The foolish woman shall fall from high place.
> Of the same sect several/a greater-number shall be killed.

The "experts" would have us believe this refers to the Great Fire of London in 1666. They use "fireballs" rather than "thunders" and then identify what they call the "antique dame" with St. Paul's Church ("antique" is better translated as "foolish" or "senile") and "of the same sect" is said to refer to other churches of the same denomination (Protestant) that were destroyed.

Bleiler casually suggests another, and much more likely, source for this verse: the outrages of Queen Mary I of England, early in 1555, news of which could easily have reached France by the time the verse was printed in that same year. I consulted my library, and came up with corroborating details that stamp Century II, verse 51, as a report of events of that year. Bleiler agrees with my findings.

Consider this: England's queen, known as "Bloody Mary," had set out to eradicate all traces of Protestantism in her kingdom. On January 22, 1555, the first of several groups of six heretics was tried and all were sentenced to be burned. (Two recanted and were spared.) Shortly after, a second group of six was similarly tried and burned. In this unpleasant form of execution, a bag of gunpowder was placed between the legs of the victim, and he went out with a roar, thus shortening his agony. Mary was already insane, and these horrors were not only proof of that fact but the cause of her downfall. In all, some 300 Protestants were burned alive before the nightmare ended with the queen's death in 1558.

We may postulate that the "twenty-three" represents the number of persons arrested in the first stage of the purge—figures are not now available. But in any case, this verse is a report of a contemporary event and not a prediction at all; it certainly does not refer to the Great Fire of London.

Those who strain their intellects trying to come up with wonderful things concealed in the Nostradamus verses often arrive at totally different conclusions. They had a wonderful time with Century I, verse 60:

Vn Empereur naistra pres d'Italie,
Qui à l'Empire sera vendu bien cher,
Diront auecques quels gens il se ralie
Qu'on trouuera moins prince que boucher.

Translation:

An Emperor shall be born near Italy
Who shall be sold to the Empire at high price
They shall say, from the people he associates with,
That he is less a prince than a butcher.

Adolf Hitler, Napoleon, and Ferdinand II (who was a Holy Roman Emperor) all fit equally well. The words "near Italy" of course cover both Austria and Corsica, the birthplaces of these three. In fact, France and Yugoslavia are quite eligible, along with Greece and Switzerland! As Bleiler soberly notes, certain Roman Caesars can be represented by this quatrain with greater fidelity, but any such interpretation would take away the precognitive element and reduce Nostradamus to a historian/poet.

The single quatrain that put Nostradamus into orbit in his own day

was one that was claimed, after the fact, to refer to his benefactor, Henry II of France. It is quite picturesque. Century I, verse 35:

Le lyon jeune le vieux surmontera,
En champ bellique par singulier duelle,
Dans caige d'or les yeux luy creuera:
Deux classes vne, puis mourir, mort cruelle.

Translation:

The young lion shall overcome the old
On the field of battle in single combat;
In a cage of gold he shall pierce his eyes—
Two knells, (then) one, then a cruel death.

Henry did indeed die in combat—during a joust with a captain of the guard. Other than that fact, nothing the interpreters say about the correspondence is true. The "cage of gold" is said to represent the king's helmet. It was not gold. His eyes were not pierced; a sliver of lance struck him in the head and penetrated his brain. Neither combatant even used the "lion" in his heraldic emblem, and Henry was the older by only a few years.

In order to make the quatrain agree more with the event, later editions of the work—from 1568 on—were altered, making "knells" into "wounds," even though there was but one wound. "Knells" just does not fit at all.

But the most damning thing about this verse is that it contradicts two others Nostradamus made predicting great future events for Henry II. These verses are VI: 70 and IX: 41, both of which use a direct anagram—"Chyren"—for the name "Henry" ("Henryc" was used) and can therefore be expected to have served as effective flattery, not being at all difficult to solve. One does not fail to prophesy happy events to a sponsor. The seer also supplied the 1558 edition of his verses with a fawning epistle directed at Henry, who promptly died, though not as a result of the saccharinity.

This epistle was inserted just before another oft-quoted verse lauded by commentators as proving the prophetic powers of Nostradamus. It is an example of the most bare-faced manipulations of the admittedly obscure contents of these writings. Century VIII, verse 1:

PAV, NAY, LORON plus feu qu'à sang sera,
Laude nager, fuir grand aux surrez.
Les agassas entrée refusera,
Pampon, Durance les tiendra enserrez.

Translation:

Pau, Nay, Oloron more in fire than in blood shall be,
Swimming the Aude, the great one (shall) flee to the Serres Hills.

[To] the harassed, entry shall be denied.
[At] St. Pampont and Durance they shall be locked up.

In a Herculean effort at making this serve to predict the actions of Napoleon Bonaparte, cultists have combined the names of the three towns in Navarre (line 1) to form a very wishful anagram for "Napoleon." (Cheetham points out that the prophet's spelling was often in error!) We are asked to accept that "*agassas*" is actually "agace"—an old French word for "magpie," from which we now get "pie," which is equivalent to "Pius," a name much favored by popes. This, of course, reflects the battle between Napoleon and the Papacy.

There are other equally ridiculous gymnastics performed to make this quatrain fit, but I will trouble you with only one more. Robb tells us that obtaining "Napoleon" from the words Pau, Nay, and Loron—by arranging them Nay-Pau-Loron—is quite impossible merely by chance. Further, he extracts "roy" (*roi,* French for "king") from the combination and is left with Na-pau-lon, which seems almost as good. Then he asks his reader to "take down a book from his shelf, open it at the beginning, pencil-mark off the text into groups of eleven letters apiece, and continue doing this till he finds a combination rearrangeable to Napaulon roy." Here Robb falls into the common error of assuming what he wants to prove. True, the chances of arriving at this combination are extremely small, but along the way there are millions of others, including Donald Duck and Richard Nixon! Or, "Downal ze Duc" and "Dickie Nix pres" if we are given the same latitude enjoyed by the occultists.

The marvelous prophecies of Michel de Nostredame, upon sober examination, turn out to be a tiresome collection of vague, punning, seemingly badly constructed verses written by a man who, in his other work, showed that he was quite capable of writing correct, concise French. The printers served him poorly, committing errors that make his centuries even more delightful to those who find obscurity profound. Of all the books published on the subject only a few have troubled to provide any sort of rational treatment, and the flim-flammers have found the market much more profitable than have the rationalists.

It hardly seems worth while to invest the necessary time and work pointing out the lack of validity in claims made for Nostradamus' prophetic powers. But one glance at the bookstore displays proves that public belief in this notion is strong, due to the preponderance of supportive material available—and regardless of its poor quality.

From a distance of more than four hundred years, I fancy I can hear a bearded Frenchman laughing at the naiveté of his twentieth-century dupes.

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Parapsychology and modern physics

Although the general public remains unaware of it, the overwhelming majority of experimental psychologists around the world do not believe that the existence of ESP and PK has ever been demonstrated. Yet for the past hundred years the true believers, in violation of Sherlock Holmes's advice ("It is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts"), have been turning to the latest theories of physics in hopes of finding support for the shaky results they are convinced are genuine. It is a sad history. When Maxwell's theory of electromagnetic fields was new, it was fashionable to theorize about how magnetic forces could account for psi. When relativity theory was new, it was fashionable to explain psi by forces in hyperspace that move in and out of our world. Today the big mysteries of physics are on the microlevel. It is not surprising that true believers, eager to underpin psi with science, would turn to quantum mechanics. For once I find myself agreeing with J. B. Rhine. Paraphysicists would do well to abandon theory and concentrate on devising experiments that can be replicated by unbelievers.

—Martin Gardner, "Parapsychology and Quantum Mechanics," in *Science and the Paranormal,* George O. Abell and Barry Singer, eds. (Scribner's 1981).

The Modern Revival of 'Nostradamitis'

Testing a phenomenal book's interpretations

Piet Hein Hoebens

Nostradamus: Historien et Prophète. By Jean Charles de Fontbrune. Editions du Rocher, Monaco, 1980. 576 pp., illustrated.

Fontbrune's *Nostradamus* is an extraordinary phenomenon. At the time of this writing over 700,000 copies of the expensive original French edition have been sold, and translations into several languages have either been published or are being prepared. The book has been given front-page treatment by the European pop media from Oslo to Lisbon, but it has also been featured as the subject of cover stories in weeklies as respectable as *Der Spiegel, Die Zeit,* and *Nouvelles Littéraires.* An opinion poll ordered by the French illustrated *Paris Match* revealed that three-quarters of the French public are aware of the book's existence, while a quarter (some 17 million inhabitants of an advanced Western state) believe its horrifying message. Headline writers coined the word "Nostradamitis." Recent reports indicate that the virus is about to cross the Atlantic.

What is all the fuss about? Jean Charles de Fontbrune (pseudonym for M. Pigeard de Gurbert) claims to have discovered the hidden key to the enigmatic "prophecies" of the sixteenth-century French seer Michel de Nostredame, better known as Nostradamus. A careful analysis of these prophecies, he says, has revealed that Nostradamus foresaw in gruesome detail that no less than two major wars would take place before the end of this century. World War III, instigated by Khadaffi and to break out in the eighties, will see Paris and Istanbul utterly destroyed, the Pope assassinated, and Europe occupied by Russians and Muslims. After three years of ferocious fighting, the aggressors will be soundly defeated by Henry (the Happy) V, King of France, and his allies.

A period of relative peace and prosperity will follow. Paris having been reduced to radioactive ashes, Avignon will become the capital of France. This happy interlude will end around 1999, when the final war breaks out. The Chinese and (again) the Muslims will overrun the Occident; Rome will be destroyed. The last of the popes will be captured. The papacy and the French monarchy will disappear. After 27 years of unmitigated disaster, the Millennium will have arrived.

In order to understand how this somewhat silly horror story could have caught the imagination of millions of Europeans, it is obviously necessary to consider the socio-political conditions prevailing in modern Europe. The Old World was ready for Nostradamus/Fontbrune's apocalyptic message. In a society disturbed by

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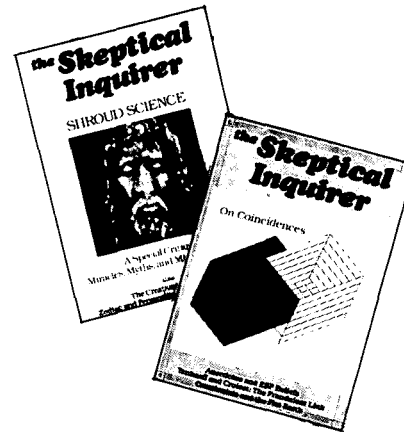
economic insecurity and political unrest, scared by crime and terrorism, and threatened by nuclear holocaust, prophets of doom and hope are assured a large audience. However, predictions of imminent Armageddon are a dime a dozen. There must be something special about Fontbrune's book to have persuaded 17 million Frenchmen to accept it as a prospectus of future history.

This special factor, I suggest, may well have been the carefully fostered impression that *Nostradamus: Historien et Prophète* is not a wildly speculative work but rather the result of dispassionate, sober, and scientific analysis. A blurb, echoed in many reviews, interviews, feature articles, and broadcasts, emphasizes Fontbrune's claims to serious scholarship: ". . . *une méthode rigoureuse . . . le rationnel* always prevailing over personal judgment and imagination . . . scrupulously respecting the prophetic texts . . . unequalled precision . . . unquestionable intellectual integrity . . ." It is the purpose of the present review to examine these claims critically.

De Kerdéland (quoted in Gauquelin 1979) has characterized the prophecies of Nostradamus as "an inexhaustible magic hat from which modern prestidigitators can pull innumerable rabbits." The prophet himself has referred to his "cloudy manner, with abstruse and twisted sentences." According to L. LeVert (1979), "he pushed the techniques of multivalence to an extreme not paralleled until the twentieth century."

Blissfully unaware of the pitfalls of subjective validation, occultists ever since the sixteenth century have attempted to "decode" the garbled and confused presages. Their efforts have demonstrated—at least to the satisfaction of their authors—that Nostradamus had accurately foretold the death of Henry II, the Thirty Years War, the French Revolution, Napoleon, the rise and fall of Hitler, the deaths of John and Robert Kennedy, and even the fact that in March 1982 an exhibition of Flemish tapestry would open in the New Church on Dam Square in Amsterdam. The interpretations often reflected the political predilections of the interpreters. Fascist Nostradamologists had the prophet predict Axis victory; the anti-fascists discovered portents of Axis defeat.

Catch Up On What You've Missed In The *SKEPTICAL INQUIRER*



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THE SKEPTICAL INQUIRER • BOX 229, CENTRAL PARK STATION • BUFFALO, NY 14215

Decoding the prophecies is a game without rules. The freedom to indulge in metaphorical and cryptogrammatical interpretation virtually assures a rich harvest of striking hits. Skeptical authors, such as J. C. Adelung (1789), P. F. Buget (1860-63), R. Baerwald (1926), C. von Klinckowstroem (1927), E. Leoni (1961), M. Gauquelin (1979), and L. LeVert have pointed to the Rorshach-like quality of the prognostications. They have also demonstrated that many Nostradamologists are well versed in the ancient art of cooking the books. Undeterred, the aficionados have continued to exhibit their prize rabbits.

Fontbrune is critical of many of his fellow interpreters. He pokes fun at an astrologer who in 1938 predicted, on the basis of the prophecies, that 1940 would be a year of French *grandeur*. He solemnly warns against charlatans and sensation mongers who lack intellectual integrity and *la méthode rigoureuse*. His own method is explained in the first chapter of the book. At least that is what the title, *"De la Méthode!"* seems to promise. Unfortunately, one searches in vain for anything even remotely resembling a clear statement of the methodological principles underlying the claim that Fontbrune has cracked the Nostradamus code and restored the "real" chronology of the verses.

We are not even told why the author accepts not only the famous "centuries" of quatrains, the "presages," and the two prophetic letters but also the 58 sixains as authentic Nostradamus. The sixains are generally assumed to be spurious and their inclusion would have required at least some explanation.

What it all boils down to is that Fontbrune simply *asserts* that the prophecies contain a "real meaning" and that he, Fontbrune, has finally succeeded in matching the verses with the historical and future events actually foreseen by Nostradamus. His "method" does not basically differ from that of the other Nostradamus believers: *cherchez la correspondance*—keep searching for similarities until a match has been made.

Fontbrune repeats the classic argument that the prophet was forced to resort to apparent multivalence (requiring apparently far-fetched interpretations) because the dreaded Inquisition would have accused him of sorcery had he been more specific. What is wrong with this argument is that sixteenth-century inquisitors could not possibly have known the difference between a "veiled" and a "specific" presage if it was concerned with an event sufficiently far in the future. If Nostradamus had written a quatrain containing the names "Thatcher," "Galtieri," "Haig," "Pym," and "Falkland Islands," this would have meant nothing to his contemporaries. To us, the message would have been clear. Why did Nostradamus write no such quatrains? Fontbrune does not provide an answer. Apparently he is not even aware of the problem. Instead, he invites us to be amazed by the fact that, in Century IX: 2, Nostradamus mentions "D'Arimin Prato," which, because Mussolini was born in a village equidistant from Prato and Rimini, must refer to the fascist dictator. Would the Inquisition in France really have had reason to become suspicious if Nostradamus had written "Benito Mussolini" instead of "D'Arimin Prato"?

Although Fontbrune's *méthode rigoureuse* is not made explicit, the quality of his scholarship can be inferred from the arguments he advances to support individual "matches."* Before I analyze some of his prize examples, however, I

*Some press reports have fostered the impression that Fontbrune employed a sophisticated computer program to crack the code. This is misleading. A computer was used only for counting, indexing, and cross-indexing words and names mentioned in Nostradamus' work.

wish to commend Fontbrune for having avoided at least a few of the more outrageous bloopers found in the writings of other believers.

Unlike Erika Cheetham (1973), he has resisted the temptation to translate "Hister," a name mentioned in several quatrains, as "Hitler." ("Hister" is simply Latin for "Danube." There is not the slightest doubt that Nostradamus was referring to a river, not a dictator. In Century V: 29, there is even a bridge over "Hister"!)

Unlike Brian Inglis (1977), Fontbrune does not claim that the quatrain containing an anagram of the name of Mazarin and a number of strikingly accurate statements on the latter's career "defied rational explanation." (Rational explanation, for the benefit of Mr. Inglis: the two Mazarin quatrains are found in a counterfeit edition of 1649, backdated to 1568. It was a celebrated hoax perpetrated by the enemies of the Cardinal.) It is also praiseworthy that, on the basis of his interpretations of the verses he believes refer to future events, Fontbrune makes a number of quite specific predictions. So some of his claims at least have the merit of being falsifiable.

The central theme of the book is stated on page 13: "Nostradamus' message was intended for the twentieth century: therefore the texts dealing with earlier centuries are included only to testify to the validity and the authenticity of the prophecies."

For Fontbrune's hypothesis it is essential that the prophecies extend no farther than the end of the present century, which will see the end of pre-Millennium history. Here, however, he is faced with a problem: in a letter to his son César the oracle himself clearly states that his prophecies extend to the year 3797. The manner in which Fontbrune turns this apparent refutation into a resounding confirmation of his hypothesis certainly deserves a place of honor in the annals of crackpot arithmetic. His "proof" starts with the traditional biblical chronology: 4757 years from Adam through Noah, Abraham, Moses, and David to Jesus Christ. Next he notices that there is a difference of 2242 years between 1555 (the year the letter to Cêsar was written) and 3797. He then adds 4757 and 2242, which gives 6999. Corrected for the Christian chronology, Fontbrune triumphantly explains, this yields the year 1999.

On a similar level of scholarship is Fontbrune's demonstration that Nostradamus foresaw a French King Henry, nicknamed "the Happy," appearing after the fall of the Fifth Republic. Many readers will be familiar with Century I: 35, one of the most celebrated of all Nostradamus' quatrains:

> The young lion will overcome the old one
> on the field of battle in single combat
> He will put out his eyes in a cage of gold
> Two fleets one (or: in one of two combats), then die a cruel death.

Several authors (virtually ignored by Fontbrune) have demonstrated that the interpretation favored by the believers (the quatrain accurately predicts the death of Henry II of France, who died in 1559 after having been injured in the eye at a tournament) is based on a distorted version of the historical facts (Klinckowstroem 1927; Leoni 1961; Gauquelin 1979).

However, the most compelling argument against this interpretation is found in Nostradamus' own work. His introductory letter of June 27, 1558, is dedicated to Henry II, whom he calls, of all things, "invincible." Fontbrune is aware of this

obstacle, but instead of concluding that Century I: 35 cannot possibly refer to Henry II, he concludes that Henry II cannot possibly be the king to whom the 1558 letter was addressed! He explains that "second" is a gallicized form of the Latin "secundus," which can, among other things, mean "prosperous" or "happy." Ergo: the letter is actually addressed to a future king. This notwithstanding the fact that, in the letter, Nostradamus reminds His Majesty of a previous meeting.

At about the time the new monarchy replaces the French Republic, Pope John Paul II will be assassinated in Lyons. Here is how Fontbrune demonstrates that Nostradamus predicted the Polish-born pontiff. In several quatrains, mention is made of *"Pol mensolée," "Mansol"* or *"sainct Pol de Manseole." Pol,* says Fontbrune, has a double meaning. It refers both to the name of the present pope and to his land of birth. *Mansol* is a word concocted by Nostradamus from two Latin words, *manus* (work) and *sol* (sun). Together they mean "the work of the sun." Now another famous prophet, Malachias, had predicted that the chosen device of the present pope would be *"de labore solis,"* which also means "work of the sun."

This is tripe. Given the context in which *"Mansol."* etc., are mentioned, there is precious little doubt that Nostradamus was referring to a geographical location near the Rhone in southern France. There is such a place: Saint Paul de Mausole, just outside Nostradamus' birthplace, St. Remy, a few miles from the Rhone. Saint Paul de Mausole was a well-known monastery that later became a lunatic asylum. Its most famous inmate was Vincent Van Gogh. Fontbrune ignores this obvious explanation. However, because Nostradamus insists that "Mansol" is near the Rhone, his interpreter is forced to have the pope die near the river.

It will be clear by now that Fontbrune's predictions are based on a very silly sort of logic. However, they might in principle become true, thereby retroactively justifying to some extent Fontbrune's reasoning. The fairest way to assess his "method" is therefore to examine the way Fontbrune seeks to demonstrate that some of Nostradamus' prophecies have already been validated by history. I will analyze two instances that are presented in the book as particularly striking hits.

On page 107, Fontbrune quotes from the letter to Henry II (or V, as he prefers): ". . . *et durera ceste cy jusqu'à l'an sept mil cens nonante deux que l'on cuidra estre une rênovation de siècle* . . ." This quote is followed by Fontbrune's translation into modern French, which is here translated into English: "And this [the monarchy] will last till the year 1792, which will be believed to be a renovation of the age."

This seems an impressive hit, for the French monarchy was in fact abolished in 1792. However, the "translation" is utterly misleading, and this cannot possibly be the result of an honest mistake. By placing "monarchy" in brackets Fontbrune unambiguously states that, in the sentence preceding the short quote, Nostradamus was referring to the French monarchy. However, the full text of the letter to King Henry is not included in the book and the reader who does not have access to other sources cannot look up the literal context.

Here is what Nostradamus really wrote in 1558: "This year [a year identified only by astrological configurations] will see the beginning of a worse persecution of the Christian Church than ever took place in Africa, and this will continue till the year 1792, which will be taken for a renovation of the age."

Nostradamus had *not* been referring to the French monarchy, but to the end of a period of religious persecution. No known historical event can be matched to this

prediction, as was remarked as early as May 1792 by an anonymous contributor to *Berlinischen Monataschrift.*

Also, Fontbrune conveniently ignores what follows the "1792" quote. There, in one of his few specific predictions, Nostradamus states that "sometime" after 1792 Venice will rise to the status of a superpower comparable to ancient Rome. The prophet was as wrong as he possibly could have been. In 1796, after a long decline, the Venetian Republic was abolished by Napoleon Bonaparte, never again to play an important role in world events.

Both in the introductory chapter and in the Epilogue Fontbrune names Century VIII: 12 as one of the most impressive examples of accurate prediction to be found in all of Nostradamus' verses.

> He will appear near Buffalora
> the highly born and prominent one who entered Milan
> the abbot of Foix with those of Sainct Morre
> will commit roguery, dressed up as villagers.

According to Fontbrune, this quatrain applies, with startling precision, to Napoleon III, who in 1859 entered Milan, which is not very far from the village of Buffalora. Soon after, the French emperor cheated on his Italian friends by engaging in peace talks with the Austrians.

Now the naive reader will object that, whatever else Napoleon III may have been, he most certainly was not the abbot of Foix, whom Nostradamus casts as the villain of the piece.

This problem, however, is taken care of by Fontbrune's rigorous method. He first explains that *"Morre"* is somewhat like *"mos,"* which is Latin for "law" or "rule." Alliances being concerned with laws and rules, *"Sainct Morre"* refers to the "Holy Alliance" to which Austria had been a party in 1815. Next, Fontbrune reminds us that "abbot" is derived from the Syriac *"abba"* which means "father." From this it is only a short step to "owner." As it happens, there once lived a Count of Foix, Gaston III, who was nicknamed "Phoebus."

This is the clue Nostradamus had cleverly hidden in his quatrain; for, believe it or not, Napoleon III owned a horse also named Phoebus! So "the abbot of Foix with those of Sainct Morre" means: "the owner of Phoebus" and the Austrians. *Quod erat demonstrandum!*

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Unsolved Mysteries and Extraordinary Phenomena: A Trench-Level Report

Challenging uncritical beliefs by the general public

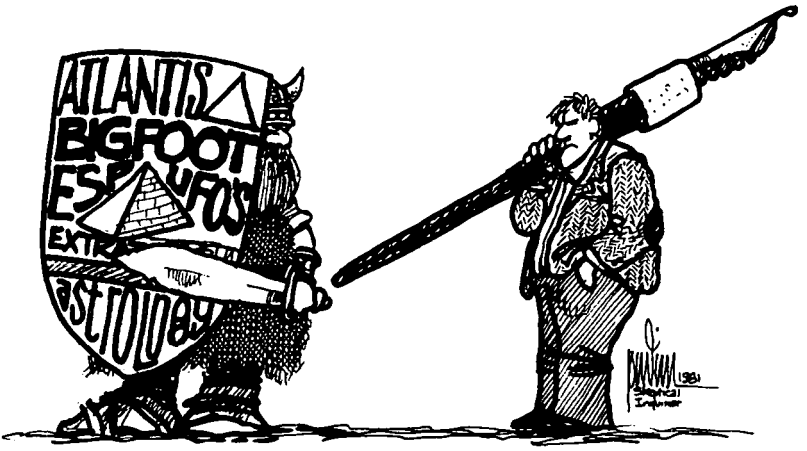
Samual T. Gill

The casual reader uncritically absorbs occult and pseudoscientific lore while dawdling over the current *Midnight Globe* in the supermarket checkout line. Contrary points of view are not to be found among the razor blades and chewing gum, and rational magazines like the SKEPTICAL INQUIRER seldom reach the mass of the general public. Rational habits of thought are not, of course, confined to any exclusive group, but those who most need to develop such habits are reluctant to have their beliefs challenged. The problem, then, of gathering an audience and illustrating the virtues of the uncommon and sometimes rather unpopular skeptical viewpoint remains a significant one. After all, it is in the trenches with the general public, rather than in academic circles, that the battle for rational thought will be won or lost. I resolved to do my own little bit in the struggle by preparing a series of lectures on paranormal phenomena.

In my town, in the state whose proud motto is "Show Me," there exists an organization called the Communiversity, which offers free, noncredit adult education in "Weight Control," "How to Fight a Traffic Ticket," and so on. The Communiversity also provides a forum for such courses as "The Origin of the Earth and the Nine Basic Races of Man," "Dowsing," and "Eckankar—A Way of Life." This last "reveals the best-kept secrets of the ages" and "dares to share the truth that has been kept under wraps as a control factor." Nestled alongside such startling revelations-to-be, my own course sounded pretty prosaic:

> UNSOLVED MYSTERIES AND EXTRAORDINARY PHENOMENA—The lure of the unknown has fascinated open-minded students throughout history.

Samual T. Gill is a training specialist for the U.S. Department of Agriculture, with a longstanding interest in the unexplained. He lives in Kansas City, Missouri.



ESP, Atlantis, pyramids and ancient civilizations, UFOs, space gods, Bigfoot, and the Bermuda Triangle are only a few of the riddles that continue to baffle us: Take a closer look at these enigmatic puzzles with me—and be ready for some startling conclusions!

Nevertheless, the hook proved to be well baited. A full jury of twelve good believers and true responded to the lure on the night of my first lecture. I conducted an anonymous pre-course attitude survey of the group before the class began. Students checked the phrase that most closely reflected their attitude to the statements below. Attitudes listed were "Strongly agree," "Fairly certain," "Undecided," "Not likely," and "Strongly disagree."

1. I believe we are being visited by aliens from outer space.
2. I feel Atlantis once existed and is the mother of civilization.
3. I feel that some people have the power to read minds and foretell the future.
4. I believe that some force, as yet unknown, operates to cause the mysterious disappearances in the Bermuda Triangle.
5. I feel that aliens from outer space have assisted humans in the past, especially in their efforts to build pyramids and other immense ancient monuments.
6. I feel that some people can bend metal and otherwise affect material objects using the power of their minds.
7. I believe that there are strange creatures, unknown to science, such as the Loch Ness Monster, the Abominable Snowman, and Bigfoot, still roaming the world.
8. I feel that some people can leave their physical bodies dormant and take actual trips to other times and places by astral projection.
9. I feel that America's ancient civilizations, such as the Incas, Aztecs,

and Mayas, must have come from somewhere else.

10. I feel science and government often cover up startling discoveries about the origin of mankind and current paranormal phenomena.

Out of the 120 separate responses recorded, 65 (54 percent) indicated strong agreement or fair certainty about the survey statements. ESP in general registered the strongest consensus of belief (3 and 6 on the survey), with scientific and government cover-ups (10) close behind. Space gods (5) and Bigfoot (7) also made strong showings, but UFOs (1) rather surprisingly did not. Seven of the 12 responses to the UFO question were in the "Undecided"-"Not likely"-"Strongly disagree" group. Equally surprising, to me, at least, was the response to the statement about Atlantis (2): 7 of the responses were "Undecided," although a significant minority (4 responses) checked "Strongly agree." There seemed to be less polarity in this area than I had expected. Statement 9, suggesting occult origins for Aztecs, Incas, and Mayas, attracted the highest level of skepticism, without a single response recorded in the "Strongly agree"-"Fairly certain" group. This issue seems to have dropped off the occultist horizon. Astral projection (8), on the other hand, remained a hot and controversial issue, with 6 "Strongly agree" responses balanced by 6 more from "Undecided" on down.

Besides the 65 "believer" responses, I received 31 in the "Undecided" camp (26 percent) and 24 in the "Not likely"-"Strongly disagree" group (20 percent).

The course description had been designed to appeal to believers, and in the opening session I presented myself as a bona-fide psychic. I had a great stroke of luck at the outset that helped to firmly establish this role in the students' eyes. While waiting for class to begin I loitered at the entrance to the classroom building, having previously greeted early arrivals and exchanged introductions in the classroom itself. Waiting thus, I observed the hurried approach of a young woman. She was unknown to me by sight, but I had already memorized the names of course participants. Mentally eliminating those who had already arrived, I picked a name at random from the three or four who had not and, taking a chance, so greeted the young woman.

"You're going to the 'Unsolved Mysteries' class, aren't you?" I then predicted artlessly.

My spur-of-the-moment name-guess was a direct hit, and the tale lost nothing in the telling when verified before class by an unwitting accomplice—a practicing clairvoyant herself, perfectly prepared for psychic sensitivity in others. We were off to a flying start.

I briefly reviewed the high points of psychic research since the 1890s, touching favorably on the results claimed by the British pioneers, and on the experiments at Duke University and the Stanford Research Institute. The class was properly impressed, and when I had warmed up their mental

muscles by "psychically" transmitting to them the triangle-within-a-circle figure I had drawn out of their sight, they seemed ready for the finale of my mentalist act. I announced I would psychically read what they would write inside a sealed, opaque envelope.

The act is, of course, a carnival routine at least as old as widespread literacy. Anyone can do it, using what is called the "one ahead" method. I believe I picked up the trick after reading Dan Mannix's entertaining little book *Step Right Up!*

The twelve students first secretly wrote a short phrase, word, or date on a slip of paper, then sealed their slips in opaque envelopes. The thirteenth "student" in the audience (actually an accomplice) wrote a message he and I had agreed upon beforehand. When collecting the envelopes I carefully placed my shill's on the *bottom* of the stack. I then took the *top* envelope and began the "experiment," parodying deep concentration.

"This is a woman's message . . ." I hazarded cryptically, pressing my fingertips onto the manila envelope and gazing vacantly into space. "Definitely female vibrations." The name of my accomplice came to me next, after a couple of ever-closer guesses, and then I "stumbled" onto the fact that the subject had written a date inside the envelope. "It's a famous date, but that's not the context," I ruminated. "The date is December 7, but—but it has nothing to do with Pearl Harbor." I concentrated still harder for the class's benefit, willing those fluky old psychic powers to vibrate in my favor. At last it came to me! "It's your birthday, December 7, 1981, isn't it?"

My accomplice, suitably agog, confirmed that I was right while I opened the top envelope, saying when I had done so, "You actually wrote '12-7-81' but I was getting 'December.'" This red herring helped to cover the fact that I wasn't verifying my accomplice's slip at all, but actually reading another student's. I then threw the opened envelope into the wastebasket, pulled a second envelope from the top of the stack, and with appropriate mumbo-jumbo proceeded to verify "psychically" what I had just read. I could have continued in that fashion through the whole stack, but I felt it more impressive to do only five or six and then beg off, pleading exhaustion and extreme mental strain.

At one point I paused, saying I was receiving a particularly clear vibration—not from anyone's envelope. I reeled off a string of numbers—a license plate! Did any student's car carry that tag? "It's a beige-colored car, with a brown interior—looks like leather? I—I think it's a foreign make," I prompted. Sheepishly, a young couple in the audience admitted that the car was theirs, and that the husband "had been thinking about it." No one seemed to suspect (then) that I might have merely looked out the window into the building parking lot before class.

Concluding the performance then with my impression of a wrung-out murder suspect at the close of a grueling third-degree, I rang down the

curtain after half a dozen startlingly correct identifications. "I hope," I quavered, "that those skeptics among you—and I sense their presence psychically—have been shown that there really is a convincing scientific basis for belief in the powers of extrasensory perception. ... And if you have been so convinced, I would now like to take this opportunity to talk to you about buying some beach-front property in Florida."

There is a stock scene in movies where the humble shepherd or foppish playboy reveals himself at last as the rightful king, long-lost heir, Winged Avenger, or what have you, to the stunned disbelief of incredulous onlookers. Such a scene ensued in the classroom. Some students appeared angry at having been led down the garden path, but the interest of the majority had definitely been piqued.

In the discussion that followed, one acute observer described exactly how I had managed the deception and correctly identified my accomplice. The realization that they could be taken in, which had been brought home so forcefully, put the more thoughtful members of the class in a mood for critically examining paranormal claims, which was indeed the whole idea.

For the remainder of the first session we discussed the lack of hard evidence for claims regarding telepathy, precognition, and psychokinesis. I explained and demonstrated some charlatans' techniques for ESP tricks, such as misdirection and simple sleight-of-hand. We illustrated ten logical fallacies commonly found in occult and pseudoscientific literature, laying special stress on *non sequitur, circulus in probando,* and *ad ignorantiam* arguments. We exposed some statistics on the accuracy of currently popular "prophets," and I explained the experimental method of observation, theory, and test as the key to progress in knowledge. Pseudoscience, I told the class, depended on special revelations known only to the elect. After discussing Occam's Razor as a logical tool, we closed with the reminder that extraordinary claims require extraordinary proof and the assertion that the burden of that proof is on the claimant. With this background, the class was prepared to examine the myths of Atlantis and the Bermuda Triangle legend when we met for our second session, one week later.

We had another little bonus for our second meeting. One "true" psychic among our group had claimed psychokinetic powers as well and had volunteered to experiment with the class. I agreed to host two experiments, one devised by the psychic and one under controlled conditions. Rather to my disappointment, the "psychic" student, though profuse with excuses, was unable to make a light-bulb glow with "psi energy" even on her own terms. Still, I stressed to the class the principle that absence of evidence is not necessarily evidence of absence and pointed out that a single test could hardly be conclusive. The experiment was a useful demonstration of the scientific method. We conducted it without, I hope, embarrassing anyone and yet graphically showing the students how to control an experiment in order to eliminate fakery, how to apply critical

judgment, and how to wield Occam's Razor. Did our subject, we asked ourselves, have miraculous powers denied to all others and unknown to science, powers that could revolutionize the world? Or was it more likely that she just knew a trick the rest of us did not?

In this atmosphere we polished off the hoary old Atlantis legend and the Bermuda Triangle without much trouble. I used L. Sprague de Camp's *Lost Continents* and Lawrence Kusche's *Bermuda Triangle Mystery—Solved* as basic texts. I also relied heavily on selections from the following bibliography, which was distributed for class use:

General Works:

Exploring the Unknown—Cazeau & Scott
Myths of the Space Age—Cohen
The Ancient Engineers—de Camp
The Building of Cultures—Dixon
The New Nonsense—Fair
Fads and Fallacies in the Name of Science—Gardner
Scientists Confront Velikovsky—Goldsmith
Fact, Fraud, and Fantasy—Goran
Bigfoot—Napier
Flim-Flam—Randi
Broca's Brain—Sagan
Legends of the Earth—Vitaliano
Lost Tribes and Sunken Continents—Wauchope

Works on ESP:

Mediums, Mystics, and the Occult—Christopher
ESP, Seers, and Psychics—Christopher
The Magic Art of Foreseeing the Future—Cohen
Step Right Up!—Mannix
Psychology of the Psychic—Marks & Kammann
The Occult Conceit—Rachleff
The Magic of Uri Geller—Randi
Science and the Supernatural—Taylor

Works on Atlantis:

Voyages to the New World—Davies
Lost Continents—de Camp
Atlantis: Making of a Myth—Forsyth
Atlantis: Fact or Fiction—Ramage

Works on UFOs:

UFOs—Explained—Klass
UFOs—Identified—Klass
UFOs: A Scientific Debate—Sagan
Intelligent Life in the Universe—Sagan & Shlovskii

Works on Space Gods:
The Space Gods Revealed—Story
Guardians of the Universe—Story

Works on the Bermuda Triangle:
The Bermuda Triangle Mystery—Solved!—Kusche

Our final session, entitled "Occult Totems and Rubber Ducks," dealt with those long-discarded theories and oft-disproved "facts" that seem to crop up most regularly as seemingly inexplicable "puzzles" in the literature of the paranormal. We skimmed such topics as pyramid lore, Easter Island, Stonehenge, the Bimini "road," and the Tunguska event of 1908. More plausible theories for the "riddle" of the frozen mammoths, the UFO phenomena, and Bigfoot sightings were offered. Prophets and prophecies were examined more critically than some students had done before, and the lack of compelling evidence behind such popular theorists as Velikovsky and von Däniken was highlighted.

The intent of the course was not just to debunk popular mysteries, but to encourage students to examine paranormal claims on the basis of hard evidence, to beware of logical fallacies and rhetorical trickery, and to draw conclusions only after applying rigorous critical judgment.

Only four students (one third of the original group) remained interested enough to finish the final session and complete the post-course survey, a questionnaire identical to that given before the lectures began. Perhaps a competent statistician would be able to draw more information and conclusions from the final results, but the most significant fact I noted was the comparison between the "Not likely"-"Strongly disagree" figures for the group before and after the course presentation. Skepticism was registered in only about 20 percent of the original responses. After the course, skeptical responses shot up to a whopping 73 percent. Undecided responses held about even, but only *one response* out of the 40 recorded in the post-course survey fell in the "Fairly certain"-"Strongly agree" group.

Did only the hard-core skeptics remain with me to the bitter end? I think not. The course was not designed to attract such people in the first place. The faithful four, judging from informal conversation, all indicated significant basic changes in their previous beliefs and attitudes toward paranormal claims. I judged it more likely that hard-core *believers* had dropped out, a normal enough reaction when cherished beliefs are challenged. The Communiversity's traditionally high drop-out rate had been in full force during a hot summer semester as well.

I feel the significance of the effort lies in demonstrating the popularity of paranormal topics as a means to gather an audience, the willingness of a significant number of believers to critically weigh claims against evidence, and the incalculable benefit of jolting even committed believers out of their

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certainty. I cherish the hope that the most loyal occultist would be unlikely to forget the moment of truth in the first session. This shock treatment alone will, I feel, have a pronounced effect on habits of thought in days to come.

Our hopes for the uncertain future, it seems to me, lie in cool rationalism, critical judgment, and careful consideration of evidence. Emotionalism, truth through revelation, and pseudoscience masquerading as religion (and vice versa) point the way only to madness. Irrational habits of thought are not just harmless eccentricities. They can be dangerous, as the dupes of Jim Jones discovered when they followed an occult trickster into the wilds of Guyana a few years ago and squirted cyanide into the mouths of little children.

Skepticism may, in some small way, help prevent such tragedies. That's what "Unsolved Mysteries" was all about, and I think that's one of the things CSICOP stands for as well. •

ANNOUNCEMENT

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Clearing the Air about Psi

The Amazing Randi corrects some statements often made in the media that misrepresent his position on the paranormal.

James Randi

If a teacher cannot learn from the experience of exchanging ideas with those being taught, a great opportunity has been lost. Over the past decade, during which I have been active as a lecturer on the subject of the paranormal, certain comments and queries presented during question-and-answer periods have provided me with an improved and extended insight into the general audience attitude toward the subject.

Some responses leave the speaker in a state of shock. After some 90 minutes of pressing home the contention that the evidence for claims of paranormal forces is not sufficient to be convincing, I am asked if I will make some psychic predictions or if I can provide a few "lucky numbers" for the questioner. It is at such times that one wonders if the effort is worth it, though the majority of the audience happily is not in tune with these exceptional few who ask such inane favors of me.

What really troubles me about audience comprehension of my lectures is that I am frequently misquoted in the press following my appearance, and I find myself required to answer volumes of mail that result from statements attributed to me but which I would never make. Here are a few examples, directly from various media sources:

"Mr. Randi denies the possibility of ESP powers and equates them with belief in Santa Claus." My stand has always been, not that ESP cannot exist, but that it is unlikely to a high degree in view of what we know about all possible forces that may be invoked to provide a theoretical basis for it. Of much greater importance, however, is the second part of my contention: that evidence offered to support belief in ESP is abundant but of very poor quality. Rome's Seneca said it well: "It is the quality rather

than the quantity that matters." I frequently ask a believer in psychic matters whether he/she believes as well in the reality of Santa Claus (thus the reference quoted) and when met with a positive "No!" I ask, "Why *not*?" Few come up with the obvious answer: "Because the *evidence* for Santa Claus is very poor, though plentiful."

"Pseudoscientists are those who think they have found meteorites [opposed by] men who knew damned well that there were no meteorites." (This was written by a journalist seeking to summarize the attitude of both CSICOP and myself.) In my lecture, I gladly introduce the meteorites-and-X-rays matter to show that a denial of the *possibility* of any claim is not only unwise but illogical. One can only express a degree of probability of any event or entity, though that degree may approach zero *very* closely. As for the meteorite/X-ray examples, it is easy to point out that meteorites are produced for examination and are seen to fall, and that X-rays are reproducible easily and consistently—while the parapsychologists are still, contrary to various claims they have made, trying to come up with the repeatable experiment they need to make the field a science.

"Randi . . . claimed that because [his replication of a "psychic" trick] was a fake, all similar performances must be fakes." This, and like statements about my claim concerning my demonstrations, is just not so. What my performances prove is that so-called psychic feats can easily be faked and can be thoroughly convincing to anyone not familiar with conjuring techniques. I specifically state that duplication of such feats does not prove that "psychics" do them that way, but I also insist that the parapsychologists have the onus upon them to prove that what they observe is not trickery but genuine paranormal forces at work. This they cannot do if they do not consult with an *experienced* conjuror, rather than one who occasionally graces a family soiree with his card tricks.

"Randi is of the school of thought that holds [parapsychologists] are a bunch of sneaks, cheats and liars." I have *never* said any such thing, nor would I. The majority of the psientists I have met are honest but, in my opinion, deluded. Two gentlemen for whom I have the highest regard are Robert Morris of Syracuse University and Helmut Schmidt of the Mind Science Foundation in San Antonio. Though I have never seen these scientists at work—something I look forward to—I have examined their work and found that they appear to be directing their efforts toward an honest and thorough examination of the psi phenomena they believe they have observed. One cannot ask more of a scientist. However, there is no question at all about one of my consistently held and provable contentions: *some* parapsychologists have fudged data and have lied and cheated in order to make their results look significant. In this, parapsychology is little different from other branches of study, for such practices are not unknown outside of the psi field. It is this small fraction of psientists that I pursue, along with the performers who confuse the study by using trickery. I also

try to identify subconscious sources of bias that lead to self-delusion.

"[*Randi*] *would not believe anything of a paranormal nature, no matter how convincing and positive the evidence.*" Absolutely not true. As a rational individual, I must accept the evidence if it is properly arrived at and correctly reported. When I was recently told that Arthur Lintgen, a physician in Abington, Pennsylvania, could identify a classical record by simply examining the surface with the labels and matrix numbers covered,

Randi: Rectifying the errors may help the exchange of ideas.

I very much doubted the claim. I realized, of course, that the information required was available in a close examination of the grooves, but I knew that it would require a great deal of training to perform Lintgen's claimed feat, though he was not saying it was at all psychic. I tested him using double-blind techniques and allowing no feedback of information. Lintgen made no attempt to bypass the security I imposed, nor did he offer lame excuses—a common pair of features exhibited almost without exception when I test "psychics." The good doctor passed my test 100 percent, identifying two different copies of Stravinsky's "Rite of Spring," the 1812 Overture of Tchaikovsky, Ravel's "Bolero," Beethoven's Sixth Symphony with an added "Prometheus" Overture, Holst's "The Planets" and effectively eliminating three additional controls that I worked into the test. One of them he described as "gibberish." It was an Alice Cooper recording. I had no difficulty at all accepting that Dr. Lintgen can do *exactly* what he says he can do. And I am prepared to do the same with any demonstration of ESP, PK, divining, or other wonder. Just *show* me.

"*Randi makes all the rules, acts as the judge and runs the whole show when he offers* [*his*] *unattainable prize.*" Nonsense. This comment, referring to my $10,000 prize for the performance of a psychic

demonstration under proper observing conditions, is typical of those who are uninformed of the facts. All conditions are agreed to in advance by both parties, claims are clearly set out in advance, judges (where needed) are agreed upon, and the $10,000 check is surrendered to an impartial party before the test, either to be returned to me at the conclusion or given to the claimant if the test is a success. (A copy of the official offer, notarized, is available free to anyone who sends a stamped, self-addressed envelope to me. This offer is not made on behalf of CSICOP or the SKEPTICAL INQUIRER.)

There are, of course, many other false attributions that I might correct or deny altogether. Facing up to them is part of the job; it comes with the territory. Perhaps, in rectifying a few of the errors made by my detractors, I may look forward to a more productive exchange of ideas and opinions with opponents. In common with serious believers in the paranormal, the occult, and the supernatural, I seek truth. That statement is, I'm sure, echoed by CSICOP itself. Einstein said it: "No amount of experimentation can prove me right. But one experiment can prove me wrong." I await that one experiment. ●

Debunking as Positive Science

The popular impression that disproof represents a negative side of science arises from a common, but erroneous, view of history. The idea of unilinear progress . . . suggests a false concept of how science develops. In this view, any science begins in the nothingness of ignorance and moves toward truth by gathering more and more information, constructing theories as facts accumulate. In such a world, debunking would be primarily negative, for it would only shuck some rotten apples from the barrel of accumulating knowledge. But the barrel of theory is always full; sciences work with elaborated contexts for explaining facts from the very outset . . . . ***Science advances primarily by replacement, not by addition. If the barrel is always*** *full, then the rotten apples must be discarded before better ones can be added. Scientists do not debunk only to cleanse and purge. They refute older ideas in the light of a different view about the nature of things.*

—Stephen Jay Gould, in *The Mismeasure of Man*
(W.W. Norton, 1981)

A Skotography Scam Exposed

A case of filmy flim-flam

James Randi

I received a frantic phone call, back in the summer of 1964, from an old family friend living in New York City. His brother, identified here as "B," had fallen victim to a spiritualist "church" operated by Mr. and Mrs. William Donnelly in the town of North Oxford, Connecticut, and there was concern that he was being taken for a financial ride by the operators. I was asked if I could convince B that he was being swindled. (I relate this event now, since the complete file and set of photos has just been made available by B, and he has provided additional details unknown to me until this time.)

The gimmick that was being used is known as "skotography," a process by which purported spirit photos are produced on paper, cloth, or film by supposedly supernatural means. In this particular case, the modus operandi was childishly simple but still had managed to deceive the believers, many of whom were regulars at the Riverside Church in Manhattan, though that organization had nothing at all to do with the racket I was investigating.

B described the skotography procedure as follows: The lights in the seance room were turned out, and a yellow safelight (the kind used in a darkroom for handling photographic paper without exposing it) was turned on. There were three trays of chemicals on the table before the sitters—developer, fixer, and wash water. Each sitter was handed a two-inch square of enlarging paper (in this case, it was "Indiatone" pebble-surfaced paper) that appeared quite blank. After much praying and concentration on the square, which the sitters held between their palms, they were told to immerse their squares in the three chemical baths in order. A face was then seen to develop on each square. After all present had obtained a photo, the lights were restored.

(For the information of those unfamiliar with photographic techniques, I must explain that a piece of sensitized photographic paper can be exposed to a projected negative without there being any visible change on the surface, which then bears what is known as a "latent image." This image is made visible by treatment in the chemical solutions, each in turn. Such a latent image will remain on the paper for a considerable period of time, awaiting eventual development.)

My examination of this matter was quite straightforward and relatively simple. I supplied B with a small light-tight envelope containing a piece of identical photographic paper that had been exposed to light only along one edge for a width of one-quarter of an inch. B was instructed to drop the paper square provided him by "medium" Donnelly into his lap, then to open the envelope (the safelight was on by now) and switch the two papers, putting the original, supposedly "virgin" paper in the envelope for future examination.

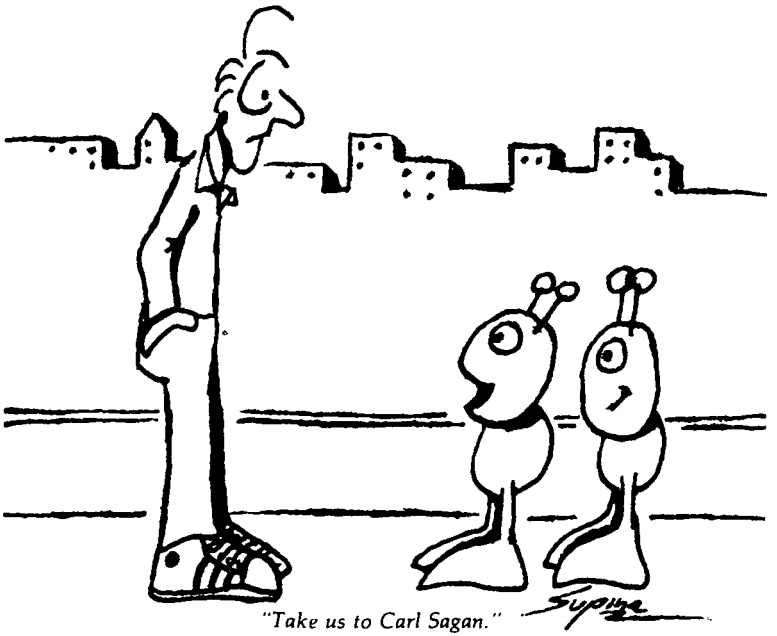
The theory was that, since the now-sealed-up square was not the subject of the concentration, the substitute square should develop a face, along with a black edge where it had been previously exposed, if the phenomenon were a genuine one. Also, the original paper would, upon subsequent development in a darkroom, exhibit only a blank space. However, if the phenomenon were a trick, the substitute paper should develop blank with a black edge, despite the fervent prayers directed at it, while the original would be expected to develop a face—previously imprinted there as a latent image by the operator of the game before it was handed out.

B followed the instructions, and the result showed the "skotography" to be a complete fraud—when the substitute paper was processed, the case was proved. No face, just the tell-tale black edge showed. When Donnelly saw that B had not obtained the expected photo but only a suspicious black line, he examined the substitute paper with some alarm; then he quickly recovered his composure and offered B another square from his own supply, which miraculously developed the appropriate image of a face!

Following this successful exposure of the scam, B was dismayed. He announced to me that he now had serious doubts about the spiritualists' honesty, but added that he was still convinced that the two had "very strong powers" in *other* aspects of mediumship—though he had no good reason to believe that these abilities were not the result of similar trickery. He merely chose to believe that other exhibitions he continued to attend at that church were genuine, and he abandoned further investigations because "Bill has grown very angry, and may put me out of the circle." And he pointed out to me that he had not discovered to whom the face belonged on the sealed-up square of paper, which, upon being processed in a professional darkroom, had developed—as expected—a typical "spirit" face!

B assured me that the Donnellys never "charged" for their seances. When questioned further, however, he admitted that sitters were expected to donate anywhere from $20 to $30 at each meeting. He continued to attend the circle faithfully even after my exposure of the scam that he had fallen for, until it was eventually disbanded.

There is no dissuading the true believer. Faced with such strong evidence of fraud, B was convinced only that on *this* occasion the Donnellys had tried to deceive him. His need to continue participating in the seance group was so strong that he was willing to overlook what he had discovered. To this day, he accepts proof of spirit communication established by such means as I have here described. As for the Donnellys, they are reported to have "retired" to Florida, and I am unable to discover whether they are still in operation there. •



"Take us to Carl Sagan."

Book Reviews

Full Moons. By Paul Katzeff. Citadel Press, Secausus, N.J., 1981. 327 pp. $12.95

Reviewed by James Rotton

On March 9, 1982, a mild-mannered professor sat down to read a book about the effects of the full moon. After reading quietly for a few minutes, he began to fidget and squirm; after a few more minutes, he wrote a note in the book's margin. Maybe he felt guilty about writing in a book he had borrowed from the library, but he couldn't help himself! *He was overcome with a compulsion to scribble. One note led to another: Question marks (???) were followed by exclamation points (!!!) and words like "hah" were followed by obscenities.*

What had possessed this normally quiet and law-abiding citizen?

There was a full moon that night. Coincidence? Is it also a coincidence that March 9 was the night before the planets lined up to form the Jupiter effect? And what shall we say about the fact that this man lives in Miami, which is on the edge of the Bermuda Triangle?

The preceding is a parody of the type of prose found in *Full Moons.* Much of this book consists of a series of anecdotes about what people in different places and at different times have thought about the full moon. The first third (Chapters 1-9) is devoted to myths, legends, and superstition. At one time or another, the reader is told, the moon has been worshiped as a goddess, feared as a devil, approached as a friend, avoided as an enemy, welcomed as a blessing, spurned as a curse, loved as a mother, and so on and so forth. Predictably, one chapter is devoted to lycanthropy and werewolves. Paul Katzeff tells the reader that "some 30,000 cases of lycanthropy were reported to secular and church officials between 1520 and 1630" (p. 58). What he does not tell us is where all the werewolves have gone. Has the moon shifted in its orbit? Are silver bullets the answer? One would think that this kind of inconsistency would be embarrassing for anyone who wants to prove that

James Rotton is associate professor of psychology at Florida International University in North Miami and a member of CSICOP's Astrology Subcommittee.

the moon plays a role in human affairs, but Katzeff never tries to explain why so many different and often discrepant effects have been attributed to the moon.

As a scientist, there is not much I can say about the first part of this book. I accept it for what it is: cant. It is the remainder of the book that concerns me. In Chapters 10 through 25 (pp. 85-222), Katzeff links phases of the moon to everything from changes in the weather and earthquakes to the migratory patterns of birds, reproductive cycles of oysters, and activity patterns of hamsters. It would probably take a meteorologist, a biologist, and an astronomer to spot and correct all the errors in these chapters.

But there are enough errors in the chapters on abnormal and criminal behavior (Chapters 21-23) to cast doubt on the book as a whole. In the first of these, Katzeff cites a few studies that have found a greater incidence of criminal behavior when the moon is full than during its other phases. For example, he devotes two pages to Lieber's research on homicides in Miami, but he does not tell the reader that this research has been questioned and dismissed by members of the scientific community (see Abell's review of *The Lunar Effect* in *SI*, Spring 1979). Nor is the reader told that Alex Pokorny and other investigators have tried to replicate Lieber's results without success. To take another example, he described questionable results of a study on criminal behavior done in Cincinnati, Ohio, but he neglects to mention a follow-up study done by Jim Frey, Tim Barry, and myself. This is probably because we found absolutely no evidence of a relationship between lunar cycles and criminal behavior.

Maybe I should be glad that Katzeff does not mention our work, because he distorts and misrepresents the studies he cites. In the chapter on "Madness," for example, he states that Alex Pokorny found lunar effects in a study done in Texas. Three tests did attain significance in Pokorny's study. What Katzeff does not tell the reader is that Pokorny performed 48 tests in all, and 45 failed to reject the null hypothesis of no relationship between lunar phases and psychiatric admissions. Instead, Katzeff ends this chapter by quoting people from all walks of life: a small-claims clerk, an FBI agent, a talk-show host, a grade-school teacher, a taxi driver, a tavern keeper, a newspaper editor, and even "a radio astrologer"!

Katzeff continues with this sort of distortion in his chapter on suicides. For example, he claims that Eugene Lester and his colleagues found that more people took their lives during full moon than other nights of the month. In point of fact, this is not what they found. In this and other articles, Lester has rejected the idea of a reliable association between phases of the moon and suicides. To take another example, Katzeff lifts quotes from an article by Alex Pokorny to suggest that more people kill themselves when the moon is close to the earth. This takes *chutzpah*, because Pokorny is well known for studies that question and discredit attempts to link astronomical events and abnormal behavior. Apparently, Katzeff assumes that nobody has read the articles he cites; he must also believe that the readers will not look at the titles of articles listed in his bibliography. One of the articles cited in this chapter is entitled "Moon Phases and Suicide: A Spurious Relationship."

Nevertheless, in the third section of this book (pp. 223-66), Katzeff trots out theories that have been proposed to explain a supposed relationship between phases of the moon and human behavior. We are blinded by photoperiodic effects in Chapter 26, immersed in biological tides in Chapter 27, bombarded with positive ions in Chapter 28, whipped by weather in Chapter 29, and galvanized with electricity and magnetism in Chapter 30. These theories may be interesting, but

they beg the question: Is there a reliable relationship between lunar cycles and events on Earth?

Obviously, Katzeff believes there is. He is a true believer. No amount of negative evidence shakes his belief; for him, the full moon is an evil eye in the sky. Naturally, he touts studies that have found effects during periods of the full moon, but he is also willing to accept effects that appear 48 hours later and during first and fourth (new moon) quarters. He interprets results that "approach significance" as supporting his beliefs, and he ignores studies with negative results. Unfortunately, because there are some who might be impressed by a long list of references (mostly irrelevant), lots of quotes (out of context), and a collection of esoteric facts, this book will probably be quoted by those who wish to make a scientific case for astrology. •

Ordinary Daylight. By Andrew Potok. Holt, Rinehart & Winston, New York, 1980. Bantam, New York, 1981, 243 pp. Paper, $2.95.

Reviewed by Martin Gardner

When people are told by reputable doctors that they have an incurable disease, the impulse to seek help from a quack can be overwhelming. I know of no sadder or funnier account of a victim trapped in this terrible dilemma than Andrew Potok's *Ordinary Daylight,* a book now available in a Bantam reprint edition.

Potok is a former painter who lives in Vermont, intelligent, handsome, and slowly going blind with a degenerative disease of the retina called retinitis pigmentosa. A few years ago when he was 40, Potok read in the *London Observer* about a cure for his disease, unorthodox but so marvelous that improvement is sometimes noticeable in two or three days.

Who discovered this miracle therapy? A former mid-European named Helga Barnes (a pseudonym, used by Potok's publisher for legal reasons; her real name is Julia Owen), now 70 and twice widowed. For 50 years Helga has been treating the near-blind by stinging the back of their necks with bees. Not just ordinary bees, you understand. They are bees fed with a secret formula that she refuses to divulge to all those "filthy parasite doctors," as she calls them, who consider her therapy worthless.

"I had come to that point in my life," Potok begins his remarkable narrative, "when I felt that no matter what I did I had nothing to lose." Off he goes to London, with his compliant but skeptical wife, Charlotte. Soon he is allowing his neck to be stung by Helga's "angel bees," while Helga chatters like a madwoman about how her treatment never fails, and how she will "wipe the floor" with all those "money-grubbing" ophthalmologists who are trying to steal her precious secrets.

Signs of quackery are everywhere, but Potok is too desperate to face up to them. When he asks Helga about his incipient cataracts, a familiar complication of

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Martin Gardner's Science: Good, Bad, and Bogus *(Prometheus Books) is to be published in paperback by Avon in January.*

---

his disease, she tells him flatly that he has none. On a later occasion, while Helga looks into his eyes and shouts, "The pigment is dehydrating faster than I expected!" Potok notices that she has forgotten to turn on her ophthalmoscope. One of the stirring testimonials in Helga's literature turns out to have been written by her chauffeur. (License plates on her car read BEE 008.)

The daily beestings, five or more at a time, are making Potok violently ill, but Helga is ecstatic. The venom, she assures him on the phone just before he passes out, are "pushing out all the filth," dissolving the "terrible fungus." When he tells her his sight is not improving, she is furious and accuses him of lying.

Charlotte, who from the beginning has seen clearly through the scam, tries to read Helga's two medically illiterate books, both published by the Helga Barnes Press. She finds them "horrible and disgusting." Convinced that her husband is crazy for staying, she packs up and leaves.

Potok not only stays; he brings his young daughter, Sarah, who has inherited his disease, to London for the bee therapy. Fearful that Helga will drop them as patients, Potok lies to her about his progress. There are even times when both he and Sarah imagine with joy that they are seeing better. At Helga's insistence, each writes a testimonial letter in which details are fabricated to placate the terrible-tempered Mrs. Barnes.

Newspaper stories had said that Helga never asked for money, but after several months of free therapy Helga flies into a rage. She calls Potok a scoundrel, a cheater and a thief. She is washing her hands of him unless he comes through with a thousand pounds. "No fees, no bees!" she screams. Poor Potok, still hoping against hope, borrows the money from a friend.

Sarah is pronounced completely cured and sent home. Potok hangs on. Helga is now mixing new bees with old ones, but doing it gradually "lest we bust your liver." After six months in England, and many hundreds of beestings, Potok leaves. Back home his eye doctor finds no change whatever in his or his daughter's retinas.

Helga, Potok tells us, is still going strong. British newspapers continue to run glowing accounts of her cures—not just for eye ailments but also for arthritis, astham, diabetes—you name it, the angel bees cure it. On a recent BBC television program she claimed 100 percent successes. Her fees now start at 3,000 pounds and go up to 12,000.

Potok, reunited with Charlotte, finally accepts his blindness. No longer able to paint, he turns to writing, and a publisher buys his candid account of how he has been stung. It is a brave, splendidly written, deeply moving story about one man's struggle against self-pity and the inexorable vanishing of ordinary daylight. It is also a sharply etched portrait of a type of personality that haunts the fringes of modern medicine—the ignorant, neurotic, partly self-deluded charlatan who, aided by the uncaring print and electronic media, preys on human gullibility and despair. •

The Jupiter Effect Reconsidered. By John R. Gribbin and Stephen H. Plagemann. Vintage Books, New York, 1982. 185 pp. Paper $3.95.

Reviewed by George Fergus

Eight years ago, two astrophysicists predicted that the next major California earthquake would occur in 1982, due to a rare alignment of Jupiter with several other planets on one side of the sun. Their book was widely criticized, however, and eventually the senior author, John Gribbin, issued a public retraction, asking forgiveness for his youthful overenthusiasm. The retraction, published in the July 1980 issue of *Omni* (p. 20) as "Jupiter's Noneffect," included the following statement: "I am older now and, I hope, wiser. I would certainly not present the same material in the same way if the idea had just occurred to me."

Well, *The Jupiter Effect Reconsidered* is Gribbin's presentation of exactly the same material in exactly the same way. The only changes are the addition of a foreword explaining that "when we sat down to look carefully at the old book, it turned out to be not so bad after all," and an afterword explaining how correct their original theory still is, if you ignore Chapter 9.

The authors now contend that the Jupiter Effect "did happen—almost as forecast—but it came two years early," causing in late 1979 and 1980 the largest earthquakes to hit northern California since 1911. Then, they say, it caused the eruptions of Mount St. Helens, which lies "in a region geologically related to the San Andreas Fault."

With hindsight to guide them, they now say that planetary alignments merely influence the *magnitude* of the solar activity that occurs near the peak of the sunspot sycle, whereas its *timing* is determined by the still poorly understood mechanism inside the sun that generates the 11-year sunspot cycle. This, they contend, is why the sunspot maximum (and thus the Jupiter Effect) occurred in 1980 instead of 1982.

The authors claim that this revision of their theory is still quite in keeping with the main thrust of their original book—the contention that seismic activity becomes greater in years of maximum solar activity. (They neglect to explain why, if this is so, they did not call their book *The Solar Seismic Effect.*)

Further hedging their bets, however, they go on to state that "broad solar maxima with multiple peaks can occur, so we should be cautious about saying the present solar maximum is definitely passed." In other words, the attribution of seismic events in 1980 to the Jupiter Effect does not preclude the attribution of seismic events in 1983 to the Jupiter Effect too. In addition, the authors lay the groundwork for a prediction that solar minima may also cause the occurrence of unusual seismic events.

For those still skeptical about the whole business of planetary alignments, they have clarified their conception of how these are supposed to affect the sun's activity. This was so poorly explained in the original Chapter 9 that most casual readers thought they were talking about some grand conjunction of the planets that would occur on some specific date in 1982. (The artist's drawing of nine planets in a row on the cover of the book was particularly misleading.)

George Fergus is an engineer interested in anomalous claims.

What they are actually concerned with is the degree to which the sun is accelerated in its tiny orbit around the center of mass of the solar system. They claim that this acceleration parameter tends to be large during those periods when all the major planets are clustered on the same side of the sun. However, they wish to emphasize that this is not due to any specific planetary conjunction, and that since the outer planets move slowly it actually lasts several years rather than being restricted to a single point in time. The authors go on to point out that during such a period the sun can be swung through a distance greater than its own diameter, and so the effect is not as minuscule as suggested by most of their critics.

It is unlikely that these slightly improved arguments will redeem their book in the eyes of the scientific community or that the public will exhibit any further interest in a topic on which the authors have already "cried wolf" unsuccessfully. To give them their due, Gribbin and Plagemann's theory is nowhere near as crackpot as the descriptions in the news media have made it out to be. But it is safe to say that John Gribbin (who only last September proposed his latest crank theory, that chimpanzees and gorillas are descended from *Australopithecus africanus* and *robustus*, respectively) is still not getting any wiser. •

Perpetual Motion: The History of an Obsession. By Arthur W. J. G. Ord-Hume. St. Martin's Press, New York, 1977 and 1980. 235 pp. $15.00 cloth; $5.95 paper.

Polywater. By Felix Franks. MIT Press, Cambridge, Mass., 1981. 208 pp. $15.00

Reviewed by Terence M. Hines

Perpetual Motion and *Polywater* present descriptions of episodes in the history of science that will be of interest to students of paranormal belief systems. While neither the search for perpetual motion nor the dispute over the existence of polywater involved paranormal explanations, the nature of the arguments and the defenses involved bear striking similarities to those found in disputes over overtly paranormal phenomena. It is of considerable interest that such arguments are not limited to claims for the paranormal but also crop up from time to time in disputes in "mainstream" science.

The search for perpetual motion dates back at least to the fifth century. In *Perpetual Motion: The History of an Obsession,* Arthur Ord-Hume presents a fascinating, scholarly, and often humorous history of this search.

The history of the search for perpetual motion is filled with stories of ingenious, if ultimately unsuccessful, attempts to build machines that operate with no external source of energy. It also includes stories of blatant frauds who built

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bogus perpetual-motion machines to extract money from potential investors and the general public. There are also cases, with strong parallels in the paranormal area, in which honest inventors turned to fraud as the only way of demonstrating that perpetual motion did, in fact, exist.

The explanations of the repeated failures of perpetual-motion machines to actually work also have close parallels in the paranormal field. The "age-old excuse of the perpetual motionist" is that "with better workmanship [it] would have worked" (p. 67). How similar this all sounds to the paranormalist excuse that "if there weren't any skeptics present [in the room, the city, the country, the universe], the phenomenon could, at long last, be shown to be real."

One impressive aspect of the search for perpetual motion is that several basic types of such machines keep popping up in the basement labs of do-it-yourself inventors. The unbalanced wheel, for example, has been developed numerous times over the centuries by different inventors working independently. This point is made all the clearer by the lovely, and numerous, illustrations of these often exceedingly intricate devices found throughout the book.

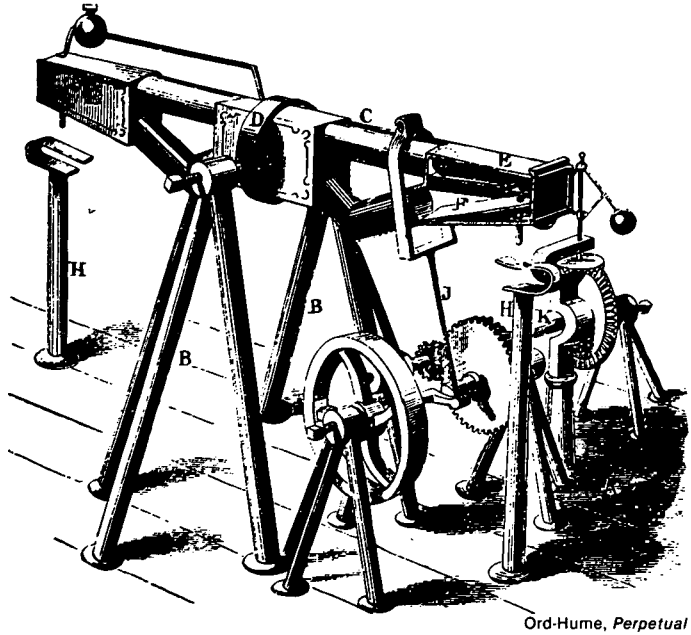
While the search for perpetual motion has lasted for centuries and continues with somewhat reduced vigor, the polywater episode lasted only about 13 years, from 1962 to 1975.

Polywater, or anomalous water, was thought to be a variety of H_2O with a molecular structure quite different from that of regular H_2O. Presumably because of this different molecular structure, the properties of polywater were said to be very different from those of ordinary water. It froze at lower temperatures and boiled at higher temperatures. It was also 15 times more viscous than regular water. Some believed that polywater was a more stable variant of the H_2O molecule. Further, and more dramatically, at least one scientist felt that polywater posed a threat to all life on Earth. If even one drop of the subtance were allowed to come into contact with regular water in the natural environment, it might result in all H_2O molecules spontaneously changing into the new, more stable type. A letter outlining this danger appeared in *Nature* in 1969 (vol. 224, p. 198).

The polywater story started in 1962 with the publication of the first paper on the topic by one Nikolai Fedyakin, working in an obscure laboratory about 200 miles from Moscow. Fedyakin quickly faded from view as his research was taken over by a better equipped and more prestigious laboratory in Moscow.

For a few years papers on polywater appeared only in the Russian literature. While Western scientists were aware of the existence of this line of research, it attracted little attention until the late 1960s. From that point there was a great, if short-lived, growth in the number of papers on polywater appearing in the Western literature. Interest in the topic faded when, in the early 1970s, it became increasingly clear that polywater was not a new form of water, but water that had become contaminated with various impurities. As more and more researchers came to this conclusion, B. V. Deryagin, the prime mover of polywater research, stuck to his guns. According to Felix Franks, the author of *Polywater*, Deryagin felt that "the presence of contaminants was evidence of careless work; his own samples were clean or only contained minute amounts of foreign materials which could in no way account for the measured physical properties of modified water" (p. 103).

This argument sounds familiar and is often put forth in one form or another by paranormalists who try to explain why other investigators cannot replicate their



Ord-Hume, *Perpetual Motion*

An oscillating beam "perpetual motion" machine designed by a Chicago inventor in 1870.

findings. The error, they claim, is not in the original findings, but some flaw in the methods of those who failed to replicate the result. Although this type of answer is probably an almost universal response among scientists whose work has not found support in other laboratories, it may seem to be associated more strongly with the paranormalists because positive results in these areas so rarely replicate. It is probably incorrect to attribute the high rate of use of this argument to some quirk in the paranormalist's psyche.

Franks provides a detailed history of the polywater episode. He traces the development of interest in the field in both the Russian and Western literature, as well as detailing the rapid decline in interest. Of especially great value are the results of extensive correspondence and interviews with the leading investigators of polywater that Frank discusses. He offers several valuable insights into why the debate continued as long as it did and compares the spread of polywater research from one laboratory to another to the spread of an infectious disease.

One is, of course, reminded of the case of Blondlot and N-rays. However, Frank's book is self-contained and there are no references to any other cases of pathological science. The final chapter, titled "A Case of Pathological Science?" considers at length the causes of the polywater episode. The lack of discussion of other similar cases is no drawback at all. Franks has produced an extremely important record of a scientific aberration that closely parallels the N-ray case. It will be a classic. •

Articles of Note

Abell, George O. "The Mars Effect." *Psychology Today,* July 1982, pp. 8-13. Good review of the history and status of the Gauquelin "Mars effect" claim and the various attempts to test it.

"America's Cults: Gaining Ground Again." *U.S. News and World Report,* July 5, 1982, pp. 37-41. Reports on religious sects in four U.S. communities, with sidebar "The Moonie Life and How One Left It."

Barber, Simon. "The Boss Don't Like Swindle Make It Robbery: Inside the *National Enquirer.*" *Washington Journalism Review,* July/August 1982, pp. 46-50. Interesting anecdotal account of how the notorious tabloid does things by a British journalist who worked for it for five weeks. For an earlier article along the same lines see Corkery, P. J. "The 'National Enquirer': An Eyewitness Account," *Rolling Stone,* June 11, 1981, pp. 18-21+.

Conniff, Richard. "Walter McCrone: A Modern Sherlock Holmes and the Mysteries of a Shroud, a Map, and a Murder," *GEO,* June 1982, pp. 10-19. An interview with the noted forensic microscopist, with considerable attention to his work concluding that the shroud of Turin is a fake.

Cowen, Robert C. "Flying Saucers—or Soviet Satellites?" *Christian Science Monitor,* June 9, 1982, pp. 1 and 6. Article reporting results of the CSICOP/Oberg study finding that certain dramatic UFO reports in recent years are due to Soviet military satellite launchings (see p. 2, this issue).

Esbenshade, Donald H., Jr. "Relating Mystical Concepts to those of Physics: Some Concerns." *American Journal of Physics,* 50 (3): 224-228, March 1982. Physics teacher discusses the recent popular trend to emphasize parallels between mystical concepts and ideas of modern physics and raises problems with it. He concludes that "efforts to use mysticism to help understand physics are not justified."

Finkelstein, P., B. Wenegrat, and I. Yalom. "Large Group Awareness Training." *Annual Review of Psychology,* 33: 515-39 (1982). A review of the effects of *EST* and similar training programs.

Frazier, Kendrick. "How to Cover 'Psychics' and the Paranormal." *Bulletin of the American Society of Newspaper Editors,* April 1982, pp. 16-19. Guidelines for reporters and editors on improving newspaper reporting on self-proclaimed psychics. "Treat all such claims . . . with extreme care. . . . A story that fails to subject the paranormal proponent to a reasonable amount of critical questioning and scrutiny is a disservice to the public . . . These subjects are perfect for the probing techniques of the investigative reporter."

Flew, Antony. "The Erosion of Evolution: A Treason of the Intellectuals." *Free Inquiry,* Spring 1982, pp. 19-23. An essay outlining misconceptions about evolution achieving popularity among some intellectuals that lead to its poor defense in some quarters. The same issue contains "The Continuing Monkey War" by L. Sprague de Camp.

Gardner, Martin. "The Gribbin Effect." *Discover* ("Skeptical Eye" column).

July 1982, pp. 10-11. An inquiry into "the process by which irresponsible science writers [in this case John Gribbin and Stephen Plagemann, authors of *The Jupiter Effect Reconsidered*], flourishing Ph.D. diplomas, are able to persuade naive editors that they have something valuable to say."

Goldin, Greg. "That's (Not So) Incredible!" *TV Guide,* May 15-21, 1982, pp. 4-8. Exposé of how the ABC-TV "reality" show gulls viewers with hype and hoaxes. Hoax stunts revealed include James Hydrick's supposed psychokinesis (see *SI,* Summer 1981) and Jim Mather's catching of supposedly 130-mph arrows. One bogus scheme hyped on the program was a device to provide "an endless supply of fuel" for your car. Its promoter has since been convicted on 10 counts of fraud. Goldin also reveals that some of the program's staff bought stock in a company that markets a product called Explosafe before a show hyping the product went on the air ("the segment was pure promotion," he quotes one staffer). Excellent report.

Holden, Constance. "Society Formed to Study Anomalies" *Science* 216: 1390-91, June 25, 1982. News story on first meeting of physicist Peter A. Sturrock's Society for Scientific Exploration, a group interested in bringing more scientific attention to the study of UFOs and other fringe-science matters. See also Sturrock's letter announcing the group in *Science* 216: 360.

Hyman, Ray. Book review of James Alcock's *Parapsychology: Science or Magic?* In *Parapsychology Review,* March-April 1982, pp. 24-27. Essay-review raises interesting questions about attempts to categorize parapsychology, the problem of selecting criteria to do so, and the probable consequences were psi ever demonstrated to exist. (Hyman feels the effects might be minimal, given the "erratic and uncontrollable" nature of a phenomenon that apparently follows no natural laws.) "Since no one knows what psi is, even if it does exist, it is premature, to say the least, to spell out futuristic scenarios based upon its existence." Hyman finds Alcock's book the "most systematic and comprehensive" of five recent books by skeptics about parapsychology.

Jacobs, Paul. "A Medical Debate Over Body, Mind." *Los Angeles Times,* March 29, 1982, pp. 1, 15-16. Good report by medical writer on the claims and critiques about near-death experiences.

Jones, Warren, and Leonard Zusne. "Teaching Anomalistic Psychology." *Teaching of Psychology,* 8:78-82 (1981). A brief outline of what such a course can contain.

Lewin, Roger, "Biology Is Not Postage-Stamp Collecting." *Science* 216: 718-19, May 14, 1982. Interesting interview with Harvard's eminent evolutionary biologist Ernst Mayr on how and why some physical scientists fail to understand evolution.

Martin, William. "Waiting for the End." *Harper's,* June 1982, pp. 31-37. Report on the growing interest in apocalyptic prophecy.

Morton, Peter. "ESP, Psi, Hocus Pocus: Parapsychology in Crisis." *Omega Science Digest* (Australia), May/June 1982, pp. 49-52. Report on the trend to subject the claims of parapsychology to more critical scrutiny after the more permissive 1970s, "the decade of psychic 'respectability.'"

Robinson, Leif J. "The 'Jupiter Effect'—Maybe Good from the Bad." *Sky and Telescope,* July 1982, p. 15. Astronomy magazine's executive editor approvingly describes a detailed critique—prepared by astronomer Gary Mech-

ler of Kitt Peak National Observatory—of a three-part syndicated TV pseudocumentary about the so-called Jupiter effect shown on many television stations the week of the bogus "Grand Alignment." Robinson calls the programs "bunk" and urges that astronomers, "in a spirit of social responsibility," send complaints to the producer (WAVY-TV in Portsmouth, Va.) and distributor (News Information Weekly Service, Beverly Hills, Calif.) "It's too late now to correct irresponsible reporting of the Jupiter effect, but we can all champion the dissemination of better information in the future."

Ruse, Michael. "Creation Science: The Ultimate Fraud." *New Scientist,* May 27, 1982, pp. 586-91. Excellent, no-nonsense illumination of the intellectual bankruptcy of creationism.

Steffey, Philip C. "The Serious Astronomy in the 'Sirius Mystery' Part II." *Griffith Observer* (Griffith Observatory, Los Angeles), February, March, April, May, and July 1982. Subtitled "Spinning Worlds, Spiraling Stars, and Siguis: the Solar System Folklore of the Dogon," this series examines the astronomical traditions of the now-famous West African tribe. This overall series (Part I appeared in September 1980) provides alternative interpretations to those sensationalized in the book *The Sirius Mystery,* whose conclusions and "simplistic interpretations," says Steffey, "[are] not supported by either anthropologists or astronomers."

"Vindication for Bromhall." *Discover* ("Skeptical Eye" column), June 1982, p. 12. Report on J.B. Lippincott's settlement of suit by biologist J. Derek Bromhall over David Rorvik's hoax cloning book *In His Image* (see News and Comment, this issue).

—*Kendrick Frazier*

Man prefers to believe what he prefers to be true.

—Francis Bacon (1561-1626)

To free a man of error is to give, not to take away. Knowledge that a thing is false is a truth.

—Arthur Schopenhauer (1788-1860)

The fact that a believer is happier than a skeptic is no more to the point than the fact that a drunken man is happier than a sober one.

—George Bernard Shaw

From Our Readers

The letters column is a forum for views on matters raised in previous issues. Letters are welcome and are more likely to be published if they are typed and double-spaced. Some may have to be edited.

The Shroud of Turin

After reading the "Shroud of Turin" issue (*SI*, Spring 1982), and after a good deal of thought, I cannot help but wonder if many Christian churches should not carry the warning: "This religion is about to self-destruct!"

No, I am not violently anti-religion. I was born and raised an Episcopalian and left that faith only because I found no answers to the questions I asked.

The answers given me by the so-called creationists, and by people who try to prove the shroud of Turin a burial cloth of the Nazarene, turn me away instead of helping me. That is because, with evidence of falsity present, they cling to their falsity through thick and thin. They are telling me, in effect, that because the evidence they produce is false then their religion is false.

Nor do they help their case with virulent attacks upon anybody who suggests a different course of action from theirs. Instead of emerging as defenders of the faith, they are like lemmings headed for the sea cliffs of Norway, bent upon self-destruction.

No, the earth is not immovable with the sun rotating about it. The earth is not flat but round. The cosmos was not created in 4004 B.C. but about 15 billion years ago. And the shroud is a fifteenth-century forgery.

Lybrand P. Smith
Torrance, Calif.

The special critique on the shroud of Turin was excellent. Particularly useful was the article "Science, the Public, and the Shroud of Turin" by Steven Schafersman. I do feel, however, that one point made in that article could be strengthened.

In his discussion of "The Shroud and Biblical Criticism," Schafersman notes, "But John's Gospel is unique in a special sense: higher biblical criticism has found it to be so different in style, tradition, and theology from the Synoptic Gospels that it cannot be accepted as a valid historical source." I wish to add to this that the work of Bultmann and other redaction critics has shown that the Synoptic Gospels should not be considered historical sources either. They, too, are products of early church traditions and are expressions of theology, not history. Thus, using any of the Gospels as "historical" support for the shroud's authenticity is not only bad science; it is also bad religion.

Robert P. Hall
Montchanin, Dela.

I have received my first issue of the SKEPTICAL INQUIRER and I must say I am most pleased with its contents and the critical policies it stands for, having been for so long a firm believer in the true meaning of the word "criticism." In

this day of sloppy thinking and media distortion, as well as badly misplaced religious hype (witness the recent to-do over the nonevent of the so-called planetary line-up), critical thinking is certainly not a common commodity.

I enjoyed the special articles on the shroud of Turin, but would like to make the following observation: In Mueller's critical appraisal (p. 32) the author states: "Also, the strong religious inclinations of nearly all of the STURP membership doubtless play a role here." If this is meant to minimize or down-play the STURP findings, aside from the issue of whether the latter are rightly or wrongly justified scientifically, it might also be well to consider the opposite, namely, that strong anti-religious bias on the part of some professed atheists at times can also play a role in some otherwise well-meaning scientific conclusions. When appealing to purely scientific research and reaching certain conclusions, I agree that religious convictions should not play any qualifying role, insofar as is possible. But neither should anti-religious bias color similar scientific research and conclusions.

Lucian J. Kemble
Cochrane, Alberta
Canada

I enjoyed reading your issue on the shroud of Turin. Stories I have seen on this subject in the mass media give a much different impression of the scientific findings. While it is disappointing to many that the shroud probably is not authentic, it is even more disappointing that most newspapers and magazines mislead the public to make a better story.

John Nelson
Urbana, Ill.

In 1980 I attended the exciting, well-documented pro-shroud presentation on our campus by Dan Scavone of Indiana State University. Thoroughly hooked, I began wading through the morass of claims and counterclaims, rival hypotheses, and test reports.

If four years of testing and publication have generated only this sticky bog of conflicting guesses, my hunch is that, like the image itself, the shroud controversy will fade away, perishing of its own inconclusiveness. The tragedy is that reasonable men will go to their graves never having known the truth of the matter.

Three suggestions for shroud reporting:

1. No one anticipates inspection of a hitherto unnoticed fold in the shroud to reveal either the label "Lirey Souvenir Co., A.D. 1357," or several Marian witnessing signatures dated A.D. 39. But between these extremes stretches a wide range of possibilities, often obscured by indiscriminant use of the terms "fake" and "authentic." First-century linen, the presence of blood, an image of Christ—each of these and others could be and has been intended by "authentic."

2. At times, options are presented as though they were disjunctively exclusive and exhaustive when often they are neither. (For example, ". . . either blood is present or it was painted.") What of other nonstandard or hybrid theories? What of the two-shrouds (or more) theory? The early (first to thirteenth century) fake possibility? One of the most attractive of the hybrid theories, accounting for both blood and pigment, envisages a quite plausible scenario—an artist is commissioned to refurbish and "touch up" the barely perceptible smudges of the wholly authentic shroud for exhibition in some impending religious festival.

3. It is a strategic and logical error to suppose that attacking some thesis demands adoption of the most extreme of the countertheses. (Atheists sometimes believe that they are logically compelled to assert the nonhistoricity of Christ.) All that a consistent human-

istic naturalism entails is that, whatever the truth of the shroud, up to and including its being an actual burial cloth of an actual Christ, there is not and cannot be anything supernatural or inexplicable about it.

Tony Pasquarello
Dept. of Philosophy
Ohio State University
Mansfield, O.

Pi and the pyramids

The article "On Coincidences" by Ruma Falk in your Winter '81-82 issue was very interesting. I would like to comment, however, upon the author's remarks regarding Erich von Däniken's writings about the pyramid of Cheops.

While it is not true that the area of the pyramid of Cheops divided by its height is equal to 2π, it *is* true that the *perimeter* of the pyramid divided by its height is very close to 2π. This is, in all likelihood, not a coincidence. Rather, it follows from a building technique the Egyptians employed when constructing the pyramids. The problem of keeping the angle of the sides of the pyramids constant is one that has been underestimated by scholars. Even a very small departure from the designed angle of inclination would result in a pyramid which was visibly skewed. Knowing this to be the case, the builders of the pyramids apparently employed a geometric procedure that enabled them to place the cornerstones of each level very precisely with regard to the previous level, therefore maintaining control of the angle of inclination of the pyramid's sides. I have gone into the details of this procedure elsewhere and will state only that all Egyptian pyramids for which good data exist show some such geometrical relationship.

While this in itself is of little interest to your readers, a conclusion we can draw from it should be. Throughout von Däniken's work is the tacit assumption that pre-industrial people were stupid. By leading his readers to believe that the problems of timekeeping, architecture, construction, medicine, etc., were far beyond their abilities, he implies that their numerous achievements must have been guided through outside intervention. Before falling into this trap, the reader should bear in mind that our ancestors were indeed careful, persistent observers of the world around them whose very lives depended upon their understanding and control of their environment. We have never needed spacemen to do our thinking for us.

Steven C. Haack
Lincoln, Neb.

Dinosaurs and dragons

Eden Films (until recently called Films for Christ) is now advertising a new release, "The Great Dinosaur Mystery," billed as taking up where "Footprints in Stone," their earlier release, left off. The former has been reviewed quite well by Laurie R. Godfrey in "An Analysis of the Creationist Film, 'Footprints in Stone,'" *Creation/Evolution*, issue 6, Fall 1981, pp. 23-29, and it is often cited by creationists as definite "evidence" for human footprints in Cretaceous strata. Godfrey's article plus, in the same issue, "Paluxy Man: The Creationist Piltdown," by Christopher Gregory Weber (pp. 16-23), clearly show how ludicrous such claims are. Even more ludicrous is "The Great Dinosaur Mystery."

Its theme is that historical and mythological references to dragons (the Apocrypha, St. George, etc.), as well as ancient paintings, demonstrate that dinosaurs must have lived in historical times alongside man. Therefore, the inference continues, evolution must be wrong and the entire geological timetable overturned. However, the film is a blatant parallel to the groundless reasoning of von Däniken's many publications, though done with differ-

ent motives. Using the argument of the film, one would have to conclude that unicorns, leprechauns, and griffins have also existed (not to mention witches, demons, and trolls)! Furthermore, even if coexistence should in the future be scientifically established, such would not justify changing the paleontological timescale, as the recent discovery of the supposedly extinct coelacanth demonstrates.

As Weber has described the Paluxy River "footprints" as the creationists' "Piltdown," I would call "The Great Dinosaur Mystery" the creationists' "Ancient Astronaut."

Ronnie J. Hastings
Co-Liaison, Texas Committee of Correspondence on Evolution
Science Department
Waxahachie High School
Waxahachie, Tex.

Flat earthers

Your Winter '81-82 issue contained another fine article by Robert Schadewald. In his article, Mr. Schadewald states that "the Flat Earth Society doesn't require members to sign a belief statement." While this statement is true to the best of my knowledge, it might leave one with the impression that Flat Earthers do not require any statements. I have in my files an application form for membership in the International Flat Earth Research Society. This form contains the following statement: "I hereby affirm my aim in joining is not to harm, degrade, damage or defame this Society." Apparently not everyone who has been a member in the past has taken the statement quoted to heart, for the society's flier warns: "We do not want for members Evil Dark-Minded Scoffers." The form also requires the applicant to identify his or her race.

Michael R. Dennett
Seattle, Wash.

Stanford psi-research chair

Piet Hoeben's article on Croiset and Professor Tenhaeff (Winter '81-82) states that Tenhaeff was appointed in 1953 to the first chair of psychical research ever to be established at a regular university.

I don't know when the first such chair was established at a regular university, but that certainly was not it. In 1911, Thomas Welton Stanford provided $50,000 for the establishment of a psychical research fellowship in his name at Stanford University. This fellowship was formally established by the university Board of Trustees on January 26, 1912, under the title of "The Thomas Welton Stanford Fellowship for Research in Psychic Phenomena."

Dr. John E. Coover, who received a Ph.D. in psychology from Stanford in 1912, was appointed the first fellow, and he retained that status until his retirement in 1937.

On September 27, 1913, Dr. Coover began a series of 32 test seances, which were held every Saturday through May 9, 1914. The medium was my great aunt, Mary Curryer Smith, who participated under the pseudonym of Mrs. Key. Dr. Coover's report indicated negative results.

George C. Weber
Allison Park, Pa.

Doctors and quackery claims

As a card-carrying admirer and supporter of your enterprise (the card being my subscription), I want to tell you how grateful I am for your current issue on "Shroud Science." Excellent stuff, well done.

Yet the truth is that I wouldn't have taken typewriter in hand to send you this missive if I just wanted to tell you how much I like what you're doing.

My beef? The item on "Dr. Atkins and B-15." The crux is *not* Dr. Atkins

himself—who is *not* a responsible scientist in my opinion. In latching onto B-15, he was doing what the "orthodox" pitchman of TV commercials do when they try to sell their own product (which may indeed be a "sell") on the basis of somebody else's prestige.

I don't think you quite know what you're getting into. You may think that the field of *medical* pseudoscience is just like the other fields you so effectively expose. Not so. The difference is not in the existence of medical pseudoscience quacks, who are legion, but in the nature of the *medical* establishment of science. It's different. It is overwhelmingly subject to the pressure of money—not loose change, but billions and billions of dollars involved in the trio of industries affected (doctoring and health; pharmaceuticals; food).

All I'm urging upon you is a stance of cautious skepticism about the medical establishment (including its scientific spokesmen) that you need not apply, at least to the same degree, to any other of the main institutions of science. The only general conclusion is: The fact that the medical establishment says that something is quackery does not begin to mean that it is—unless you check it out yourself.

Pellie Vreeland
Albany, Calif.

Your comment on Vitamin B-15 and the American Council on Science and Health has prompted me to suggest that you apply a little skeptical inquiry into ACSH. It, and Elizabeth Whelan in particular, are notorious apologists for the junk food industry and chemical additives. As a start, see the article in the February 1982 *Nutrition Action*, published by the Center for Science in the Public Interest.

John I. Kennedy
Monsey, N.Y.

Medical cures

I was recently introduced to the SKEPTICAL INQUIRER and have been very impressed with the two issues I have seen so far. I was a little concerned, however, with one of the "Psychic Vibrations" in the Winter 1981-82 issue derisively linking psychic healing with acupuncture treatment. I know little enough about either subject, although I suspect that any truth in psychic healing is related to placebo effect. The same might be true of acupuncture, but I am probably not alone among skeptics in feeling that acupuncture has a better chance of containing some validity, based on what has so far been published. I have heard too many favorable reports from generally reliable sources to dismiss it yet, although your excellent issue on the shroud of Turin showed how even the most reliable source can be very unreliable. My main concern is that by derisively linking a patently crackpot idea with an untested but still possible claim, we risk rejecting the latter prematurely.

Al Stoops
Putney, Vt.

Slick's slip

As a professional gambler, I've run into all kinds of wild claims regarding sports handicapping. The October 1981 issue of *Gambling Times*, however, gets the bent spoon.

Gambling Times, which usually restricts its sports analyses to historical statistical studies and rational money-management strategies, devoted four full pages to a feature article explaining astrologer Edmund Slick's astrological lock (sure bet) of the year. Slick's interpretation of the sun signs pertaining to the Monday night Philadelphia Eagle/Atlanta Falcon match-up led him to the conclusion that Atlanta was

a cinch to both beat the Eagles and cover the point-spread (the Eagles were 2½-point favorites).

Every zodiacal match-up strongly favored Atlanta, Slick explained, and never before had he seen such an overpowering set of signs. Atlanta, he predicted, was a once-in-a-lifetime lock.

To my knowledge, never has Slick so blatantly guaranteed and publicized a specific game prediction. It took some daring on his part, but not all that much, considering the game had only two possible outcomes. Slick's astrological lock therefore had a 50-50 chance of making a powerful impression on thousands of readers.

Needless to say, the Eagles beat Atlanta 16-13, covering the 2½-point spread and demonstrating that even an astrological lock has a key.

Slick has a large following, and it's interesting to contemplate how many people lost how many thousands of dollars on his "guarantee."

Robert Dietz
Centre Hall, Pa

Psi inquiry commission?

Your report in the Winter 1981-82 issue of John Beloff's call for a commission of inquiry on psi left me wondering what such a commission, however generously funded, could hope to achieve. They are "to attempt to decide whether psi phenomena inexplicable by accepted scientific understanding do or do not occur." But how, in the absence of any halfway plausible claimants to be able to provide repeatable demonstrations of the reality of any psi phenomenon, are these lavishly financed and academically high-powered people supposed to proceed?

If they only do more of what previous parapsychologists have been and are doing, then we must expect that their findings will be more of the same: maybe a few runs of card guesses, or dice willings, achieving fairly spectacular overall levels of significance, followed in fairly short order by the disappearance of the subjects' apparent psi powers. When, but only when, we do have a repeatable demonstration of some psi powers shall we have good reason to believe either that the targets are influencing the guessers or that the willers are affecting the target objects.

Yet perhaps I speak too soon. For surely we might have good reason to believe in the reality of psi powers even without that repeatable demonstration that the parapsychologists have been seeking for so long—and not finding. Suppose that there were always, or usually, what J. S. Mill called concomitant variations. Suppose, that is, that within the statistically significant runs that do occur there were sharp variations in the levels of scoring correlating with equally sharp variations in the conditions of the experiments. Suppose that it was usual, instead of almost unknown, in a properly conducted guessing experiment to drop from a level of high significance straight down to mean chance expectation whenever the experimenter, unbeknownst to his subject, changed some feature of the experiment. It was precisely and only because S. G. Soal did report such concomitant variations in his work with Basil Shackleton that some of us, before the recent definitive discrediting of Soal, were so much more impressed by his findings than by any other experimental work in parapsychology. Has any more recent experimenter even claimed to find similar effects?

Antony Flew
Dept. of Philosophy
University of Reading
Reading, Berkshire, U.K.

Evolution crumbling?

Your magazine does an excellent job of scientific and analytical criticism of

"phenomena" like ESP, PK, UFOs, ghosts, astrology, and monsters, destroying their credibility or demonstrating their shortcomings. In this, the SKEPTICAL INQUIRER performs an invaluable service. However, as soon as the subject turns to origins, science disappears, the tent of scientific terminology without substance is erected, and the magazine becomes a humanist mutual admiration society.

You say science cannot prove (or disprove) the existence of God, fine; you do not want to believe in God, fine. But to propound the evolutionary hypothesis as science taints all the noble, real scientific investigation you do in all the other areas.

Case in point: Kendrick Frazier's article on the creationist "threat" in the Spring 1982 issue. Mr. Frazier attempts to make the reaction of evolutionists to creationist strength appear to be the awakening of a sleeping giant, but, reading between the lines, one sees instead a feverish attempt to patch together and portray as sound a concept that is quite rightly crumbling.

Please continue the investigation of the paranormal, but include evolution under that topic.

Robert Mischak
Edwardsville, Pa.

Critique from a well-wisher

Your publication is most valuable and I am a bit proud that I have been a subscriber since vol. 1, no. 1.

You do receive complimentary letters and print them, but no critical letters of the journal appear in your pages. (I exclude critical letters concerning certain authors.) Perhaps it is in order that some deficiencies be pointed out by a well-wisher.

The greatest single fault I may describe as a lack of coherence or consistency. An outstanding example was the truly great article by Dennis Rawlins several years ago (F/W 1977). But in the same issue there was a book review arguing for the use of Laetrile in cancer therapy. The reviewer clearly implied that all current cancer therapy is *worse than the disease.* Laetrile as a cancer cure and Rawlins simply do not go together, not in the same journal at least.

I did write to you at the time but since it was not a kudo, my letter never appeared, which suggests a certain selectivity, or did the editor really agree that all medical efforts in cancer therapy make the patients worse?

In the Summer 1981 issue there is an excellent contribution by Sidney Gendin. His article alone is easily worth a two-year subscription (to me). One can only wonder what a "conceptual analysis" would do to some of the phrases in David Habercom's contribution, examples: (1) "the paranormalists want to defeat death," (2) "part of us is always deeply hurt by knowledge and change," (3) "if art is to truthfully speak for our deepest common vision, then it must contain a reactionary element," (4) "Rational thought is not the same as logical thought."

One can only wonder what Sidney Gendin would think of these opinions, which to my view illustrate the "lack of coherence," probably induced by a determination to be "open-minded."

A much lesser point: I have the highest regard for Randi—may his kind flourish—but his English needs a bit of polishing . . . Nit picking? Perhaps. In any case, I love Randi, and my subscription to your journal will continue till I am either hopelessly senile—or dead.

Albert Kaplan, M.D.
Mt. Pleasant, Iowa

We do publish critical letters as well as complimentary ones. Not all letters can be published, but most critical ones are. We feel an obligation in that regard. Consistency is a worthy goal, but not at the cost of all diversity of opinion and expression.

Regarding the comments on Laetrile and cancer in a review of four books about pseudomedicine (Fall/Winter 1977), by L. A. Beauregard, it should be clear that these are the sentiments of the author of the book under review, not of the reviewer.

Finally, we do consider all comments—published or not—and we appreciate hearing from all readers, especially charter subscribers.—ED.

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